THE RUBBER AGE AND TIRE NEWS

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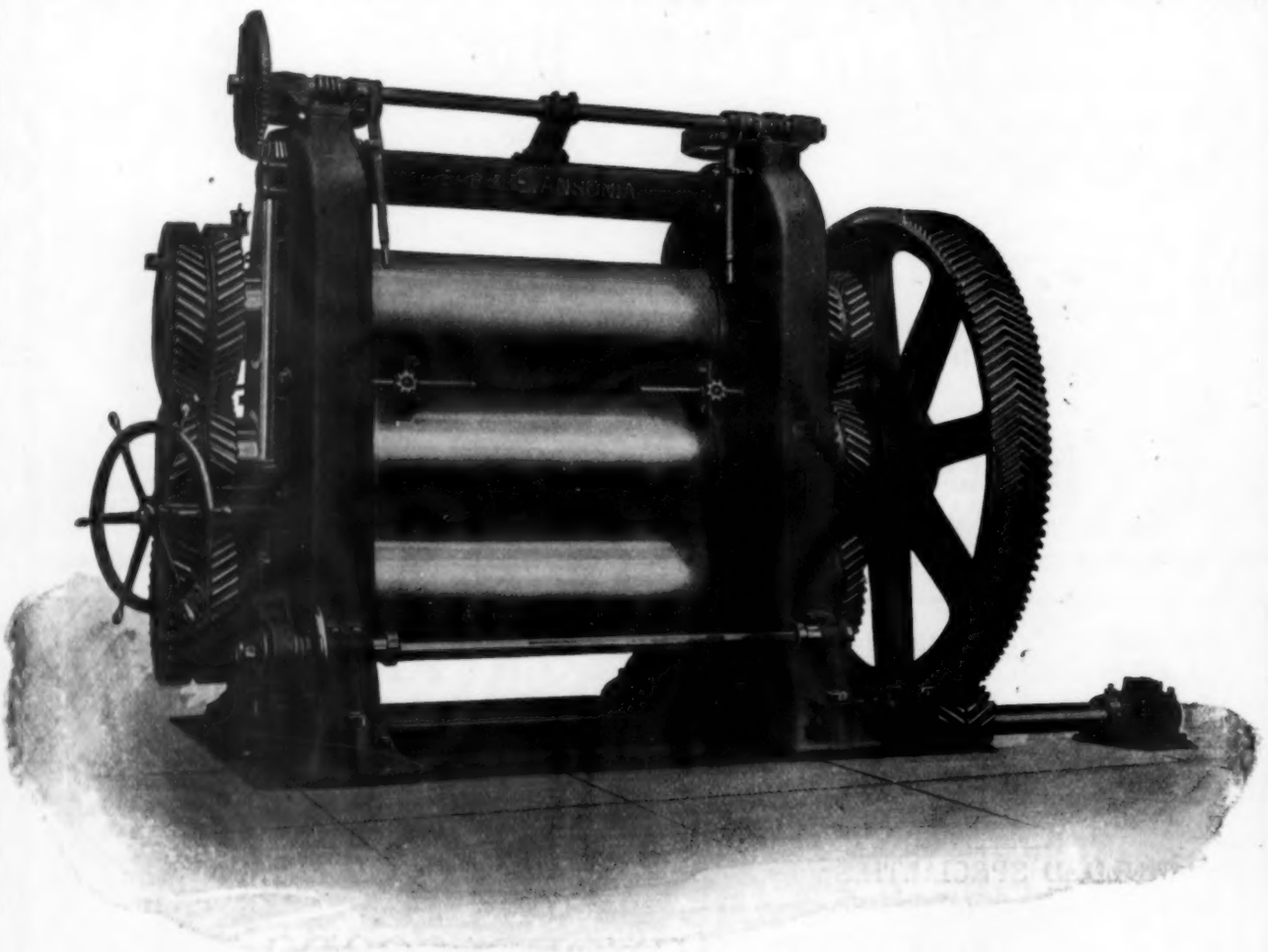

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THE RUBBER AGE AND TIRE NEWS

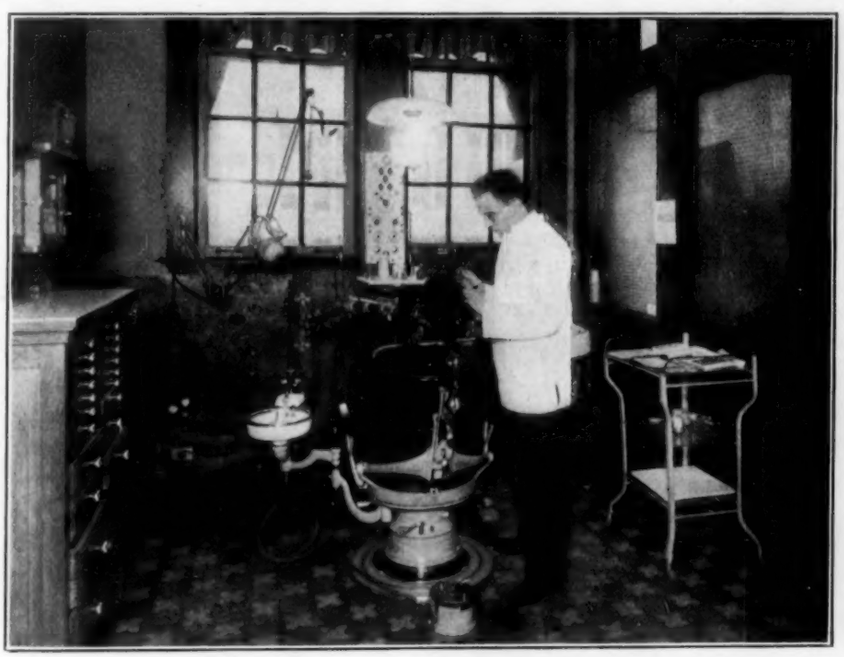
The Industrial Dental Clinic

By J. C. Long

The noted Dr. Osler says: "If I were asked to say whether more physical deterioration was produced by alcohol or defective teeth, I should unhesitatingly say: Defective teeth."

Surgeon General William C. Gorgas in a recent contribution to a well known periodical makes this statement: "The teeth of the young male Americans as we view them on entry into the camp, appear in varying stages of highly dangerous neglect. . . . The relation of tooth decay and gum infection to heart trouble, appendicitis, and other organic illnesses is only beginning to be recognized by the public."

The human body is very easily thrown out of gear. Like a chronometer a very small obstruction is sufficient to ruin its efficiency. That is why some little trouble with the eyes or something wrong with the teeth may wreck a man's health and destroy wholly or in part his power to labor.



Scene in Firestone Dental Dispensary

Dr. Smith's Paper

C. E. Smith, DD.S., of Akron, Ohio, in June, 1916, read a paper before the annual meeting of the American Medical Association in session at Detroit, Mich., on the subject, "Bad Teeth and Their Effect on the Laboring Man's Efficiency." He said: "In the past sixteen months I have made 30,000 mouth examinations. Seventeen thousand of these people were Americans and 13,000 foreigners. Ninety-six per cent of these 30,000 were in need of dental service. Only 4 per cent had clean and healthy mouths. But 9 per cent were without dental cavities. The balance had all the pathologic conditions known to dentistry, pyorrhea — pockets, decayed and abscessed teeth and mucous placques with all the virulent bacteria ready to cause disease the moment there is a lowering of the resistance.

"In 30,000 mouths there were 60,000 cavities and about eighteen thousand extractions necessary—these practically all abscessed. These foci of infection cause anthritis, stomach ulcer, heart lesions, pernicious anæmia and nervous diseases of the neuralgic type. . . . One way we can estimate the loss of efficiency due directly to toothache is by watching the piece worker. Very often a man engaged in piece work will say, 'Doctor, this tooth has ached for a week.' The loss of money to these men runs from three to seven dollars for the week. Men suffering for a day report losses of from thirty-five cents to a dollar and a half."

But the loss from toothache is the smallest, for one of the commonest results of a pus pocket at the roots of a tooth, which may be entirely painless, is rheumatism of the joints — anthritis — and a man with a stiffened elbow as a result, may be slowed down as a workman for the balance of his life.

Henry S. Upson, M.D., Professor of Diseases of the Nervous System, in the Western Reserve University, Cleveland, Ohio, in his work entitled "Insomnia and Nerve Strain," gives the clinical record of a large number of insane patients whose insanity had been caused by dental trouble. This tooth trouble had in many cases been obscure and painless. The connection between the insanity and the trouble with the teeth was established by the fact that when the dental difficulty was removed the patient recovered his mental health.

In a number of the cases adduced by Dr. Upson in his book the dental trouble had been the impacting of one tooth upon another. That is a tooth, say a third molar, had grown out of the jaw on an angle so as to press against an adjoining tooth.

For example, Dr. Upson cites seven cases from Dr. John D. O'Brien of the Massilon, Ohio, State Hospital.

Take one of the briefest reports—"Case 22, Hypomania.—The next case was one of a first attack of hypomania in a man twenty-five years old. A left lower third molar was found impacted. Recovery followed extraction very promptly and the patient has since been discharged."

Care of Teeth Is Vital

From the facts given above it can be readily seen that the care of the teeth is very vital to the mental and physical health of the laborer. For this reason many concerns have established on their premises for the benefit of their employes the dental clinic.

As might be expected the work of the clinic is not the same in all industrial plants.

The first Industrial Dental Clinic, so far as we can learn, was that of the Armstrong Cork Co., of Pittsburgh, Pa., established in 1911. This clinic is unique, perhaps, in that it furnishes artificial dentures, crown and bridge work, as well as operative dentistry free to its employes.

A number of other establishments render free service in part, or, as in the case of the Colorado Fuel and Iron Co. and the Pocahontas Coal Co., free service to the children of their employes. The majority of industrial dental clinics render services at cost or less and allow the employes to pay for the same in weekly installments.

The H. J. Heinz Company, Food Products, Pittsburgh, Pa., writes: "We have had a free dental clinic in connection with our factory for several years. The department is in charge of a graduate dentist, and all work is done on the Company's time and at the Company's expense. All sorts of dental work are done except bridge work, and the materials are supplied free of cost.

"With this feature, as with all our employment helps, we have not endeavored to estimate the dollars and cents value, so cannot state to what extent it has bettered production. The chief benefit as we see it is not so much the relief and comfort it affords the employes, but in the fact that the oral hygiene taught by our dentist, is carried into the homes."

The fullest report that we have is from the McCormick works of the International Harvester Co. at Chicago, Ill. There are about six thousand five hundred employes at this plant. Their clinic has two dental chairs and S. S. White Unit, Harvard Chair, Cabinet, Table Sterilizer, and such operative instruments as are generally used for the work done. The original cost approximated one thousand dollars for each office equipped, not including X-ray equipment. The supplies cost about fifteen dollars a monh for each of the two offices. This cost is all borne by the firm.

The clinic hours are 8 a. m. to 12 m., and 12.30 p. m. to 4.30 p. m. The average time given to each patient for the period of a year was forty-eight minutes. Two hundred and thirty-two patients a month was the average for each dentist. There were two dentists and no attendants.

No charges were made to employes.

The work done consisted of examinations, extractions, toothache relief, temporary fillings, abscess treatment, X-ray, pyorrhea cleaning, restorative work for patients who have lost teeth through accident in shop and plates for a few old employes who were not able to pay the regular fees.

The Radiographic Equipment consists of a Scheidel Western Coil Machine, used by both the Medical and Dental departments.

Each Employe Lectured

Each employe is given a personal lecture on the importance of caring for the mouth and is interested in the use of tooth brush and dentifrice.

The results obtained by this clinic are summarized as follows: "By seeing each employe individually and explaining to him the importance of the teeth and mouth as related to his health, the manner in which germs are cultivated in a filthy mouth and afterwards gaining admittance to the blood stream thereby causing disease, the extraction of badly broken down and infected teeth and helping to create an interest on the part of the patient to care for his own mouth we have accomplished a great deal towards improving the efficiency of that individual. It also demonstrates to the employes that the Company is interested in their health and we believe that practically every man who comes to the dental office goes away appreciating the personal interest taken in him by the Company."

A leading Buffalo factory reports: "The ——— Co. employs a dentist on a monthly salary, who gives his whole time to dental work for its 3400 employes, about equally divided between men and women. Something over 300 cases are handled by the dentist monthly.

"The dentist furnishes his own equipment but the company pays for the supplies used. Employes are charged an amount estimated to cover the cost of the service, including the supplies used.

"We think our employes have better teeth and better health, and we have a better attendance than we would have without the dentist. The dental clinic is operated at a loss. We cannot make it break even at the prices charged."

This concern prefers to remain anonymous; and it is just as well, for evidently one dentist to 3400 employes is plainly inadequate. But 300 treatments a month, which would average less than one a year per employe, shows that the clinic is not the factor in that establishment that it should be.

A Model Dental Clinic

The Hood Rubber Company of Watertown, Mass., has a clinic that perhaps gives us what is most practical and desirable for the average factory. R. S. Quimby, M.D., the Service Manager says: "Our dental infirmary was established in November, 1914. It was one of the early dental infirmaries in an industrial establishment. Since its beginning nearly 10,000 dental treatments have been administered. These treatments have been largely prophylactic and emergency cases, that is to say cleanings, treatments, extractions, cement and amalgam fillings.

"We have two graduate dentists and complete modern equipment for such work as above described, supplemented by an X-ray machine which we use both for the surgical and dental work.

"For the dental work we make a nominal charge to cover cost of material. We feel that in this special line of work a small charge is advisable. Our experience has, I believe, cooperated with this belief.

"To date no pressure has been brought to bear and no particular advertisement done to further the dental work. In other words the growth of the work has been natural and spontaneous. We now have an arrangement whereby cases needing dental attention discovered during the course of physical examination are followed up by the dental department and some arrangements made whereby faulty dental conditions must be remedied.

"In the case of employes who employ outside dentists or have a preference for so doing, we in every way facilitate their desires.

"Our experience in connection with the establishment of the dental infirmary has been very favorable. We thoroughly believe in the value of this work and would strongly recommend extension of dental service in industrial establishments."

Some General Conclusions

In most industrial establishments that have introduced dental clinics the attendance upon the same by the employe is purely voluntary. The time is coming, however, when periodical examination by the factory

dentist will be obligatory to all who wish to remain upon the payroll. The efficient workman requires "Efficiency Dentistry." Such dentistry requires on the part of the patient periodical visits to the dentist who thereby is enabled to minimize the decay of the teeth to a degree approaching the zero point. The dentist at each periodical visit of the patient, examines the teeth to discover ill health or any unsoundness, and if a cavity is found a filling is made which is the only known way of stopping dental caries. Such a discovery as a rule is made long before the decay would be advanced enough for the patient to notice it because of any pain. Sometimes patients complain of lassitude and lack of energy, but, of course, do not attribute it to the slight sensitiveness of a small cavity in a tooth, for at this stage the cavity is often between the teeth and not observable except to a dentist, and it may not be possible to locate it with the tongue. The average patient does not complain until a tooth aches, by which time the decay has reached the sensitive nerve pulp. During the entire progress of decay in a tooth from the time of the first softening of the enamel until the cavity has enlarged and deepened to the aching point, there is an increasing irritability developed until the pain in the tooth announces the true cause. During this process the patient, if not in touch with a dentist often resorts to nerve sedatives which naturally do not rectify the cause in the least, but only serve to complicate the condition. By the system of periodic examinations the decay is discovered by the dentist long before it reaches the disease climax in the aching tooth. The fillings as a result are very small and the teeth remain strong and efficient.

This idea of "Efficient Dentistry" in connection with a dental clinic should find universal favor in industrial institutions where the health and energy of the operative have so much to do with the material output.

The work of a truly efficient industrial dental clinic should consist in having the industrial dentist examine every employe in the plant periodically, indicating on a card index system the dental work needed and either doing the work or checking it after the patient has had it performed by his or her family dentist. In this way the industrial clinic dentist discovers the decay and has it attended to by the family dentist or takes care of it himself, with the result that within a few months the entire body of employes attached to the concern is enjoying the great physical benefits of "Efficient Dentistry."

Many more business concerns would adopt this method of conserving the health and of increasing the efficiency of their employes if the real value of this work as an efficiency agent were better understood.

Firestone Tire & Rubber Co. Clinic

The Firestone Tire & Rubber Company Dental Clinic was installed in 1915 for the examination of new men and the caring for the teeth of old employes.

After a new employe has passed his other physical examination he is directed to the Dental Clinic. Here his teeth and mouth are examined thoroughly and a record made of all cavities, teeth are missing, condition of gums, etc. The patient is advised as to class of work that is needed in his particular case, and instructed as to the use of the tooth brush, one of which is supplied him at cost.

The employe is next given a list of the ethical dentists in the city and advised to consult one within three months and have his mouth put in a healthy condition. These men are called to the office every three months until their record is clear. Six months from that date the employe is permitted to come to the clinic where his teeth are cleaned and small fillings inserted free of charge.

All treatments for new as well as old employes are absolutely free, and in case of pain a man may report to the Dental Clinic at any time, his foreman filling out a notice of this, the notice remaining on file in the Dental Department.

Last year this dental clinic handled 6073 patients besides examining 20,562 new employes.

A plan is under consideration under which every kind of dental work will be done in this clinic and such fees charged as will be commensurate with the ability of the employe to pay.

The Firestone Dental Department was started with one chair and one operator. After a year two more chairs were added, so that now there are three chairs with three full-time dentists and two assistants. The dental offices are open from 7.30 a. m. till 5 p. m.

These offices consist of an operating room 18 x 24 ft., laboratory 8 x 18 ft., and an extracting room 10 x 12 ft.

The appreciation of the employes is shown by willing and glad cooperation and by the expression of earnest thanks.

The Firestone Dental Clinic has been found to better production. A couple of specific examples will show how. J. B. C., aged eighteen years, presented himself for employment at the Firestone plant April 21, 1917. On examining his mouth, as is done with all applicants, ten bad teeth were found. He was advised to go to an ethical dentist (a list of all the ethical dentists in the city being given him) and have his work started within thirty days. He was covering beads in Department 6, earning $4 per diem. On April 29 he reported to the clinic with an abscess in a lower left molar. This tooth which was badly broken down was extracted. The following day when he returned for his post-treatment it was necessary to do more curetting, as his face was badly swollen and he was suffering considerable pain as well as running some temperature. He was sent home, and on June 2 was taken to the City Hospital with an acute alveolar abscess. He remained there until June 18. It was necessary to lance from the outside, but the operation was so handled that the slight scar was hidden by the lower margin of the mandible.

When the man was employed by the Firestone Company he weighed 122 lb. and was soon earning $4 a day. When he went to the hospital his wages had dropped to $2.50 a day and he weighed 115 lb. Four weeks after leaving the hospital with all his bad teeth cared for in the clinic, his wages ranged from $4.50 to $5 a day and his weight was 128 lb.

Another example: A young woman reported at the clinic one afternoon with an aching tooth. She had been able to do only one-half the work that she had done the day before. She was given first aid treatment, and at a subsequent appointment, stated that since her first visit to the clinic she had been able to turn out her full amount of work each day.

Book Review

FUEL ECONOMY IN BOILER ROOMS. By A. R. Maujer and Charles H. Bromley, of the Editorial Staff of *Power*. Second Edition; 203 5½ x 8 inch pages, 64 illustrations. Published by the McGraw-Hill Book Co., New York City. Price, $2.50 net.

The book is not a handbook; it is not intended to treat of design, though correct furnace design is mentioned and illustrated to guide the boiler room crew or superintendent. Though intended primarily for the student and power plant operating engineer, the consulting engineer will find it useful. It is published in two parts. Part I, Fuel Economy and CO_2 Recorders, Chapters I to XI, take up the principles of combustion, analysis of coal, flue-gas analysis, heat lost in flue gases, draft and its measurements, chimney design, evaporation, boiler efficiency, heat balance, feedwater treatment, CO_2 recorders. Part II, Fuel Economy in Boiler Rooms, Chapters I to VIII, treats of fuels, combustions of coal in boiler furnaces, boiler settings, hand-firing soft coal, burning fuel oil under boilers and the like.

All Restrictions on Rubber Removed

All restrictions governing the manufacture of rubber products and the amount of crude rubber that may be imported from primary markets have been withdrawn by the War Trade Board. This announcement was made by telegram to all rubber manufacturers by the War Service Committee of the Rubber Industry on December 13, when the withdrawal of restrictions became effective, and it was cause for much rejoicing in the trade. Crude rubber will be consigned to the Rubber Association of America as heretofore and the usual guarantee will be required, but import restrictions and maximum prices and allocation features have been entirely eliminated and rubber manufacturers believe this a most important step towards a return to normal manufacturing conditions.

The requirement of guarantees and the consignment of crude rubber to the Rubber Association, which will continue, are measures that were taken prior to this country's entrance into the war; they were then and are again independent of the activities of the War Trade Board, and were required to comply with British measures to prevent crude rubber from reaching the enemy. They will probably remain in force until peace is definitely concluded.

This relaxation of restriction affecting the rubber industry does not authorize the importation of any shipments from any country other than the country of origin. Applications for import licenses for such shipments will not be considered until after February 13, 1919. The same policy will be applied to applications for licenses to import shipments of crude rubber made prior to December 13 in violation of the import restrictions. The War Trade Board will take up separately on its own merits each case of shipment made in violation of the regulations.

In withdrawing its restrictions on the importation of crude rubber and the manufacture of rubber products, the War Trade Board made public the following policy determined upon in the relaxation of restrictions upon imports.

W. T. B. Announcement of Policy

"All announcements of relaxations will relate only to shipments made from the country of origin after the date of the announcement, and will not validate in any manner shipments made prior to such time in violation of the import restrictions. The War Trade Board will take up separately on its own merits each case of shipment made in violation of the regulations and will permit entry, if entry is permitted at all, only under such conditions as will, according to the particular circumstances of each case, do justice to importers who have obeyed the regulations by preventing those who have not from obtaining any discriminating advantage as a result of such shipments.

"In regard to the large shipments of restricted articles which have been made to Canada during the time the restrictions were effective, the War Trade Board announce that the relaxations will not authorize the licensing of such shipments. The policy will be against licensing such shipments until the lapse of a very considerable interval after the lifting of the restriction upon importation from the country of origin. The purpose is to allow ample time to importers who have obeyed both the letter and the spirit of the regulations to complete shipments from the country of origin before any consideration is given those who attempted to circumvent the restrictions by making shipments into Canada. It is the purpose of the War Trade Board throughout to prevent the accrual of any unfair advantage to importers who have disregarded either the letter or the spirit of the regulations over those importers who have cooperated patriotically with the war Trade Board by yielding scrupulous obedience to the import restrictions and assisting in accomplishing the objects of the restrictions."

Frictioned Duck Determinations

By George W. Bowers

In a previous article* a roll of duck was frictioned on both sides with the same compound. We will now take a roll of duck, or sheeting, dry it, and then friction, or spread it, with one compound on one side and a second compound on the other side; we will also skim, or coat, one side with a third compound; and skim the other side with a fourth compound.

Numbers, instead of letters, are now used for "key-ing" purposes and results of calculations are shown in tabulated form.

Following the same method as previously shown we will assume that the roll of duck has been measured and dried, and we obtain Group IX; that the frictions and skims have been applied, weights taken, and we obtain Group X.

In Group X are shown the weights as taken; also fictitious specific gravities (19-22) for each of the four compounds supposedly used, and from these we obtain the theoretical gauge (15-18) of the compounds. Using 47⅞ cents per pound for the cost of the green duck and basis of our calculations, we obtain the cost of the dry duck per pound as before and we have Group XI. Using of the various factors in Groups IX, X, and XI we construct Groups XII and XIII.

Group XII

In the first column of Group XII are the weights as taken, in the second column are the adopted or determined prices, and by extension we obtain column three. Dividing the totals in column three by the weights in column one we obtain the costs per pound in column four. Dividing the totals in column three by the number of square yards (Group IX-6) we obtain the costs per square yard shown in column five. By dividing the weights in column one by the number of square yards we obtain the weights per square yard in column six.

Using the first column in Group XII as a basis we obtain the various percentages as shown. (See page 209.)

By using the first column in Group XII as a basis we are enabled to obtain the various percentages as shown in Group XIII.

Analysis of Groups XII and XIII

Analysis of Groups XII and XIII show:

Cost per pound
- (24) duck dry
- (38) duck frictioned one side
- (39) duck frictioned two sides
- (40) duck frictioned two sides and skimmed one side
- (41) duck frictioned two sides and skimmed two sides

Cost per square yard
- (42) duck dry
- (43) first friction
- (44) duck frictioned one side
- (45) second friction
- (46) duck frictioned two sides
- (47) first skim
- (48) duck frictioned two sides and skimmed one side
- (49) second skim
- (50) duck frictioned two sides and skimmed two sides

Pounds per square yard
- (51) duck dry
- (52) first friction
- (53) duck frictioned one side
- (54) second friction
- (55) duck frictioned two sides
- (56) first skim
- (57) duck frictioned two sides and skimmed one side
- (58) second skim
- (59) duck frictioned two sides and skimmed two sides

Duck frictioned one side
- (60) percentage of duck—dry
- (61) percentage of friction

Duck frictioned two sides
- (63) percentage of duck—dry
- (64) percentage of first friction
- (65) percentage of second friction

Duck frictioned two sides and skimmed one side

* Continued from the Dec. 10, 1918, issue of THE RUBBER AGE AND TIRE NEWS.

Duck frictioned two sides and skimmed two sides
(72) percentage of duck—dry
(73) percentage of first friction
(74) percentage of second friction
(75) percentage of first skim
(76) percentage of second skim

For all practical purposes the following rule can be used:

Multiply the gauge in decimals by the specific gravity; increase this amount by four per cent; divide by two and the result is the weight in pounds of one hundred square feet.

Example.—1.664 multiplied by 31 equals 51.584; increased by four per cent equals 53.64736; divided by two equals 26.82368. 210.347 square yards multiplied by 9 equals 1893.123 square feet. 26.82368 times 18.93123 equals 507.8052555264 (see X-13).

Group IX

Duck	(1)	48¾ inches wide.
Duck	(2)	155 1-3 yards long.
Duck	(3)	193¾ pounds green.
Duck	(4)	180½ pounds dry.
Duck	(5)	6.84 per cent shrinkage.
Duck	(6)	210.347 square yards.

Group X

		Pounds.	Gauge.	Specific Gravity.
Friction first side..	(7)	110¼	(15).00803	(19)1.394
Friction second side..	(9)	45⅜	(16).00289	(20)1.592
Skim first side..	(11)	149⅞	(17).012	(21)1.268
Skim second side..	(13)	508	(18).031	(22)1.664

Group XI

		Per Pound.
Duck green	(23)	.47875
Duck dry	(24)	.5139
First friction	(25)	.2832
Second friction	(26)	.2244
First skim	(27)	.3684
Second skim	(28)	.1876

Group XIII

		Pounds.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Duck dry	(4)	180.500	(60) 62.09	(68) 53.70	(67) 37.14	(72) 18.16
First friction	(7)	110.250	(61) 37.91	(64) 32.80	(68) 22.69	(73) 11.09
First total	(8)	290.750	(62)100.00			
Second friction	(9)	45.375		(65) 13.50	(69) 9.33	(74) 4.56
Second total	(10)	336.125		(66)100.00		
First skim	(11)	149.875			(70) 30.84	(75) 15.08
Third total	(12)	486.000			(71)100.00	
Second skim	(13)	508.000				(76) 51.11
Grand total	(14)	994.000				(77)100.00

The Rubber Age Trade Information Exchange

Hose Poles

Inquiry No. 75.—Please inform us as to the method employed by rubber manufacturers for splicing together the mandrels or poles on which fabric hose is built. Also where these poles can be purchased.

Answer: Hose poles, up to and including the ¾-inch size, are made of cold drawn steel and are cut in 51-foot lengths. Poles of this type can be purchased from the Union Drawn Steel Company, Beaver Falls, Pa.

Hose poles larger than ¾-inch come in 17-foot lengths, three of these lengths being spliced together to make a 51-foot pole. They are made of cold drawn steel tubing.

They are spliced together by placing eight-inch iron or steel sleeves inside the pole at the joints, leaving the ends of the pole lengths about 2/32 inch apart. The sleeves and the poles are then keyed together with joints or rivets placed in holes drilled through the parts. Some manufacturers make the connections more perfect and durable by brazing them or otherwise filling them with metal. Some use oxygen-acetylene torches and make a regular steel welding, but the inside sleeve is always used to reinforce the splices, which are dressed down with a file to make a smooth even surface. Some manufacturers use Swedish iron poles, which can be had in any length from five to twenty feet and can be spliced in the same manner as the drawn steel poles.

Wants Rubber Stamp Machinery

Inquiry No. 76.—Will you kindly advise us where we can purchase machinery to start in the manufacture of rubber stamps?

Answer: You can secure supplies, machinery and equipment for manufacturing rubber stamps from the following concerns: James H. Dorman Company, Baltimore, Md.; Advance Supply & Manufacturing Company, Chicago, Ill., and the Consolidated Stamp & Manufacturing Company, 87 Maiden Lane, New York City.

Chinese Wood Oil

Inquiry No. 77.—We are importers of Chinese wood oil and desire to get in connection with some high class brokers who could sell these goods to artificial rubber manufacturers, etc.

Answer: The following concerns could handle the sale of your Chinese wood oil: Katzenbach & Bullock Company, 100 William Street, William H. Scheel, 159 Maiden Lane, both in New York City.

You state you want to sell your oil to manufacturers of "artificial rubber." We presume you refer to manufacturers of rubber substitute for we know of no manufacturers of artificial rubber, properly so called, in this country.

As to the use of Chinese wood oil in the manufacture of rubber substitutes, we hardly believe it would be suitable for this purpose, for we understand it to be of the semi-oxidizing type of oils, whereas, non-oxidizing vegetable oil, such as rapeseed oil and corn oil are used for making rubber substitutes. It is safe to say that fully 75 per cent of the rubber substitutes produced in the United States are made from corn oil.

We know of several rubber substitute manufacturers who experimented with Chinese wood oil and found that they were not able to use it. Chinese wood oil being a drying or oxidizing oil can hardly be expected to be suitable for the manufacture of rubber substitutes.

Group XII

		Column 1. Pounds.	Column 2. Price Per Pound.		Column 3. Extension.	Column 4. Cost Per Pound.	Column 5. Cost, Square Yard.	Column 6. Pounds. Square Yard.
Duck dry	(4)	180.500	(24) .5139	(29)	92.7578	(24) .5139	(42) .44098	(51) .85811
First friction	(7)	110.250	(25) .2832	(30)	31.2228		(43) .14843	(52) .52413
First total	(8)	290.750		(31)	123.9806	(38) .42638	(44) .58941	(53) 1.38224
Second friction	(9)	45.375	(26) .2244	(32)	10.1821		(45) .04841	(54) .21571
Second total	(10)	336.125			134.1627	(39) .39915	(46) .63782	(55) 1.59795
First skim	(11)	149.875	(27) .3684	(34)	55.2139		(47) .26249	(56) .71252
Third total	(12)	486.000			189.3766	(40) .38966	(48) .90031	(57) 2.31047
Second skim	(13)	508.000	(28) .1876	(36)	95.3008		(49) .45306	(58) 2.41505
Grand total	(14)	994.000		(37)	284.6774	(41) .28640	(50) 1.35337	(59) 4.72552

W. D. MOFFAT
PRESIDENT
W. I. SEAMAN
TREASURER
H. M. WILLIAMS
GENERAL MANAGER

THE RUBBER AGE AND TIRE NEWS

W. M. MILNER
EDITOR
H. B. SEYMOUR
BUSINESS MANAGER

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THE announcement that the Government restrictions on the importation of crude rubber and the manufacture of rubber products have been lifted is gratifying to the industry. But at the same time manufacturers realize that new problems will arise calling for intelligent solution on their part. One of the most important of these problems is that of standardization.

When restrictions were placed on the importation and use of crude rubber, it became necessary to standardize rubber products, and to eliminate a great number of items which were considered as non-essential. Various programs of conservation and standardization were developed and put into force by the War Industries Board working in conjunction with the War Service Committee of the Rubber Industry. The withdrawal of these restrictions leaves manufacturers free to return to their former practices and to make as great a variety of rubber articles as they desire.

With New Year's will come the termination of the War Industries Board and the consequent dissolution of the War Service Committee of the Rubber Industry. Upon rubber manufacturers themselves will, therefore, devolve the decision as to whether or not the industry shall unite in carrying forward the various programs of conservation and standardization, which were promulgated during the war.

Among rubber manufacturers there is, of course, considerable difference of opinion regarding the standardization of rubber products. There is, however, a decided feeling among the leading members of the industry that some method of standardization should be informally adopted. This will be subject of discussions, the most important of which will probably occur on the day of the annual meeting of the Rubber Association.

The war and its exigencies have taught rubber manufacturers economy and have obliged them to accept many new ideas in connection with the making of their products. Many articles, which formerly had been made in a half-dozen or more sizes, were made in one or two sizes only because it was found that the same purpose could be served in this manner. It was found that rubber water bottles, for instance, of certain sizes could serve the same purposes as bottles of both larger and smaller sizes.

Should not these principles of conservation and standardization be continued, as far as possible, voluntarily by rubber manufacturers? Of important bearing on this question is a statement contained in a letter which M. T. Copeland, secretary of the Conservation Division of the War Industries Board, has addressed to the War Service Committee of the Rubber Industry to announce the rescinding of the various conservation schedules issued by the War Industries Board to rubber manufacturers. In this letter Mr. Copeland says:

"The information that we have received in the course of our inquiries regarding these schedules indicate clearly that substantial savings of labor, material, equipment and capital are resulting. We heartily appreciate the ready spirit of cooperation that has been shown by the rubber industry and we hope that the industry of its own accord will find it possible to continue to observe those provisions of the schedules which eliminate needless waste and can be carried out without real hardship."

For the good of the rubber industry and the public at large Mr. Copeland makes clear his belief that the conservation policies inaugurated during the war should be continued wherever practicable, and with the spirit of cooperation which is characteristic of the rubber industry, it will be possible to do good work in this direction.

The Rubber Association of America logically affords the machinery for carrying on the various programs of conservation and standardization which were promulgated during the war. Many branches of the industry: mechanical goods, rubber sundries, rubber reclaiming, rubber proofing, rubber and fiber soles, hard rubber, foreign trade, traffic, are organized in divisions of the Rubber Association and it is hoped that other divisions for crude rubber men, and particularly for tire manufacturers, will soon be organized. These divisions elect their officers and function for themselves independently. They will be able to discuss all the phases of standardization as affecting their particular group and decide whether or not they wish to continue the standardization program, either in modified or extended form, and it can be confidently hoped that much good will result from the meetings that will be held by these divisions.

The annual meeting and banquet of the Rubber Association will be the occasion for the first general meeting of rubber men following the withdrawal of the war-time restrictions and will be of unusual interest to all concerned with the rubber industry. Rubber manufacturers are now free from government compulsion and will have to decide voluntarily what policies are best for their interests.

Important News Items for Rubber Men

Annual Meeting and Banquet of the Rubber Association—Directors Nominated by Nomination Committee and by Representation of Smaller Manufacturers—Prosperous Year Expected—Trans-Pacific Exports

Annual Meeting of Rubber Association

The Annual Meeting of the Rubber Association of America, Inc., will be held at the Waldorf-Astoria, New York, on Thursday, January 16, 1919 at 4:00 p. m., at which meeting four Directors to serve three years, to succeed those whose terms expire at that time, will be elected and the reports of the officers submitted.

The Board of Directors recommend that the Constitution and By-laws of the Association be amended so that elections to membership in the Association may be by vote of the Board of Directors, as well as by the Executive Committee; also that Article XII of the Constitution and By-laws entitled "Entertainments" be amended so that entertainments and dinners of the Association may be held at the discretion of the Board of Directors or the Executive Committee, instead of at the discretion of the Executive Committee alone, as it reads at present; also that Article XIV entitled "Expulsions or Suspensions" be amended so that the Board of Directors will have equal authority with the Executive Committee in such cases.

Every Firm Member of the Association is entitled to be represented at the Annual Meeting by the registered firm representative, but the firm representative's voting power may be delegated to some one in the employ of or acting for such member by giving a written proxy. Each Firm Member is entitled to one vote. Firm representatives who are unable to attend the Annual Meeting may execute proxies and direct the persons in whose favor they execute such proxies to present the same at the entrance to the meeting.

The Annual Meeting will be followed by the Nineteenth Annual Banquet, which this year takes the form of a Victory Banquet, in the Grand Ballroom of the Waldorf-Astoria, at 7:30 o'clock in the evening.

Nominations Committe Report

Pursuant to Article VI, Section 2, Paragraph (a) of the Constitution and By-laws of the Rubber Association of America, Inc., the Committee on Nominations, composed as follows: W. O. Rutherford, Chairman; Guy E. Norwood, John S. Broughton, Wm. L. Pitcher and Edward C. Sweeney, submit the following list of nominations for four Directors to succeed those whose terms expire in January, 1919: James Newton Gunn, United States Tire Company, New York City; John S. Lowman, Philadelphia Rubber Works Company, Philadelphia, Pa.; A. D. Thornton, Canadian Consolidated Rubber Company, Limited, Montreal, Canada; and Seneca G. Lewis, Pennsylvania Rubber Company, Jeannette, Pa.

These nominations are to be voted upon at the annual meeting to be held at the Waldorf-Astoria, as above reported.

In accordance with the amendment to the Constitution and By-laws adopted at the annual meeting of the Association in January, 1919, all Directors of the Rubber Association are now elected for terms of three years.

Other Directors Proposed

On August 13 last a representative of ninety of the smaller American rubber manufacturers held a meeting at the Akron City Club, Akron, Ohio, and appointed an executive committee as follows: H. H. Durr, Victor Rubber Company, Springfield, Ohio, chairman; G. W. Hennie, Mansfield Tire & Rubber Company, Mansfield, Ohio, vice-chairman; C. W. McLaughlin, Mohawk Rubber Company, secretary; L. J. Schott, Amazon Rubber Company, Akron, Ohio; Wm. G. O'Donnell, Falls Rubber Company, Cuyahoga Falls, Ohio; J. A. Kearns, Lee Tire & Rubber Company, Conshohocken, Pa., and John G. Gates, Gates Rubber Company, Denver, Ohio.

This executive committee met in Akron, on December 11, and it was decided that a determined effort would be made to obtain a representative for these ninety manufacturers on the Directorate of the Rubber Association of America. Accordingly the following petition was sent to the Committee on Nominations of the Rubber Association.

To The Rubber Association of America, Inc., New York, N. Y.

ATTENTION COMMITTEE ON NOMINATIONS

We, the undersigned film members of your Association, hereby nominate and request the Nomination of

JOHN MORGAN
of The McGraw Tire & Rubber Co.
C. W. MCLAUGHLIN
of The Mohawk Rubber Co.
EDWARD MAURER
of New York
G. W. HENNIE
of The Mansfield Tire & Rubber Co.

for the office of director of your Association in accordance with the by-laws, at the annual meeting and election to be held January 16th, 1919, or any adjournment thereof.

Respectfully,

The Star Rubber Co., L. H. Fiery.
The Mansfield T. & R. Co., G. W. Hennie.
The New Jersey Car Spring & Rubber Co.
The Marion Tire & Rubber Co., W. H. Holverstott.
The Adamson Machine Co., R. B. Koontz.
The Portage Rubber Co., W. W. Wildman, Treas.
Marathon T. & R. Co., Walter Jenks.
The McGraw Tire & Rubber Co., John Morgan, V. Pres.
The American R. & T. Co., H. S. Houk, Secy. & Treas.
The Victor Rubber Co., H. H. Durr, Pres.
The General T. & R. Co., W. O'Neil, V. P. & Genl. Mgr.
The Mohawk Rubber Co., S. S. Miller.
The Amazon Rubber Co., L. F. Smith.
Raw Products Co., Samuel Kubie, Pres. & Treas.
H. A. Astlett & Co.
W. R. Grace & Co., J. W. Baldwin.
Obalski & Sweeney, Inc., X. W. Obalski, Sec. & Treas.
W. G. Ryckman Co., Inc., G. B. Kaufman, Secy. & Treas.
Earle Brothers.
Pell & Dumont, Inc., G. W. Pell, Treas.
Rubber Im porters & Dealers Co., Sloan Lamont, Jr.
J. Frank Dunbar Co., Inc., J. F. Dunbar.
Charles E. Wood.
Rubber Trading Co., Wm. T. Baird, Pres.
Hagemeyer & Brunn.
J. T. Johnstone & Co., Inc., H. A. Daggett, Secy.
Robinson & Co.
Gaston Williams & Wigmore, Inc., A. W. Frank, V. Pres.

To insure representation to further the object of this petition at the coming annual meeting of the Rubber Association blank forms of proxy have been sent by the executive committee to firm members of the Association, with the request that they fill them out, sign them and forward them to C. W. McLaughlin, secretary, care of the Mohawk Rubber Company, Akron, Ohio, in case they do not intend to be present at the annual meeting.

Goodyear Adds to Toronto Plant

The Goodyear Tire & Rubber Company of Canada, 152 Simcoe Street, Toronto, Canada, is building a garage and mill addition to its plant near that city.

Rubber Men Expect Large Business

Recent statements issued by prominent rubber manufacturers indicate that rubber men are anticpating a large increase in their business and marked prosperity in the trade during the coming year. The following statement by Jacob Pfeiffer, president of the Miller Rubber Company, Akron, Ohio, is characteristic. Mr. Pfeiffer says: "When peace terms have finally been agreed upon, we anticipate an increased business over an indefinite length of time and preparations have been made accordingly. The Miller Rubber Company is today in the best condition in its whole history. For the first time in years our building operations are complete, and we find ourselves in a position to accomplish an annual business turnover of between $30,000,000 and $40,000,000. Practically all of the war orders that have taken up much of our time have been canceled, but, because all of our old-going departments remained absolutely intact, we were able to switch off from the war work to regular production without much trouble. With splendid resources in the way of buildings and equipment at our command, we do not require much readjustment from a war basis to a peace basis."

Another announcement, equally characteristic of the spirit and condition of the industry, is that of the Pennsylvania Rubber Company, Jeannette, Pa., to the effect that with the cessation of hostilities that company discontinued the manufacture of gas masks and that at the present time it is working under a 75 per cent production on normal business. For the duration of the war the Pennsylvania Rubber Company was producing but 50 per cent of its normal tire output. With the removal of restrictions on crude rubber, which has been accomplished since the statement was made, the officers of the company expected a swift return to normal.

Trans-Pacific Exports

The Traffic Division of the Rubber Association of America, through A. L. Viles, secretary of that division, directs the attention of rubber manufacturers to the following notice issued by Regional Directors A. H. Smith and C. H. Markham of the Eastern and Allegheny Regions, respectively, relating to the issuance of export bills of lading via Pacific Coast ports:

TO ALL CONCERNED:

For the purpose of issuing Export Bills of Lading via Pacific Coast Ports, the Trans-Pacific Export Bill of Lading Agency is hereby established as of Dec. 15, 1918, located at 143 Liberty Street, New York City, with C. H. Morehouse, Agent, in charge.

To minimize the work and facilitate the issuance of Export Bills of Lading, the following rules are prescribed:

The exporter or shipper will be required to make all necessary copies of Bills of Lading, showing thereon the Export License number and date of expiration; the railroad permit number, weight, measurement, rate, inland, ocean and State toll charges.

All bookings with Steamship Lines must be made by the shipper or exporter through their own Agencies.

Railroad permits are required in all cases and may be obtained by the exporter or shipper through their Pacific Coast representative or by Agent with whom the booking was made. Such permits are issued by the North Pacific Export Committee at Seattle, Wash., and the California Export Committee at San Francisco, Cal.

Advices of clearances at Ports of Exit, when required, must be obtained by exporters or shippers through the Agency with whom booking was made.

The payment of all bills covering inland, ocean and State toll charges must be made within the provisions of Director General's Orders Nos. 25 and 25-A.

A. H. SMITH,
Regional Director.
C. H. MARKHAM,
Regional Director.

News Notes of the Rubber Trade

Employee-Shareholders of Firestone Hold Two Meetings—Five More Goodyearites Killed in Action—Goodrich Plans Monument for Dead Heroes —Miller Issues New Stock—Detailed Rubber Export Statistics

Firestone Employe-Shareholders Meet

(Special Akron Correspondence)

Two meetings were necessary here December 16 when the employe-shareholders of the Firestone Tire & Rubber Company met in the clubhouse for the annual stockholders' session. The big auditorium was filled and an overflow meeting was held in one of the large dining halls.

The annual report of President H. S. Firestone showed that sales for the year ended October 31 were increased nearly $15,000,000, or nearly 24 per cent over the previous year. The sales for the year just finished were $75,801,506.79. Profits of the company in that period were over $8,000,000.

The profits were divided as follows: reserve for federal income and excess profits tax, $1,800,000; dividends paid during year, $2,610,000; placed to surplus, $3,910,442.26.

The company owns Liberty Bonds of the market value of $3,139,905.99, while the net sound book value of its lands, buildings, machinery and equipment is put down as $17,094,329.99.

President Firestone predicted an unusually prosperous year for the company, in view of its added facilities and the excellent condition the company is in to handle new business.

Plant No. 2, which was turned into war work activities upon completion, is now ready for general manufacturing purposes, for which it was built.

Akron's Dead Heroes

(Special Akron Correspondence)

The Goodyear reports that five more men have died in the service of their country, C. L. Armstrong, William David Hobson, Elmer Pennell, Wallace Miller and C. Olyn Burk, making a total of sixty-one Goodyear men who have given up their lives that the world might be safe for democracy.

Goodrich workers are planning a permanent memorial to honor the Goodrich soldier and sailor dead.

Miller Issues New Stock

The Miller Rubber Company, Akron, Ohio, has sold an issue of $2,000,000 eight per cent cumulative second preferred stock, according to a report from the Rubber Metropolis. The proceeds of this sale of stock will be used to retire bank loans incurred in connection with enlarged inventories. The Miller sales grew from $1,914,443 in 1913 to $11,357,500 in 1917, with the first nine months of this year showing over $12,000,000. In addition to the new issue, the Miller Rubber Company has $3,000,000 first preferred and $4,172,600 common.

Rubber Exports Statistics

The Bureau of Foreign and Domestic Commerce of the Department of Commerce Washington, D. C., through its Division of Statistics, has originated a special service section for the purpose of furnishing regularly each month statistical reports of imports and exports showing more detail than is possible to publish in the Monthly Summary of the Foreign Commerce of the United States. The following statement showing exports during October, 1918, of each class of rubber manufactures by countries of destination is the first of the series that will be given out by this special service.

EXPORTS OF RUBBER MANUFACTURES FROM THE UNITED STATES DURING THE MONTH OF OCTOBER, 1918, BY COUNTRIES.

Countries.	Belting, Hose and Packing.		Books.		Shoes.		Druggists' Rubber Sundries.		Tires. for Automobiles.		Tires. All Other.		All Other Manufactures of India Rubber.	
	Pounds.	Dollars.	Pairs.	Dollars.	Pairs.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.
Denmark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,335	4,729
France	.....	.....	87,033	371,475	44,000	55,728	.....	.....	.....	.....	.....	.....	88,089	111,896
Iceland & Faroe Is.	800	80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	397	523
Italy	.....	.....	.....	.....	.....	.....	1,242	525	.....	.....	.....	.....	12,390	13,599
Norway	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,422	300	529	765
Portugal	.....	.....	.....	.....	.....	.....	.....	.....	350	537	.....	.....	.....	.....
Spain	.....	.....	.....	.....	.....	.....	219	1,153	.....	.....	.....	.....	250	256
England	2,448	1,719	2,748	7,135	.....	.....	.....	.....	434	535	.....	.....	54,009	65,467
Bermuda	.....	.....	.....	.....	154	108	49	101	.....	.....	.....	.....	423	277
British Honduras	.....	.....	.....	.....	1,752	1,173	100	89	24	54	.....	.....	.....	.....
Canada	46,128	34,372	1,267	4,714	9,560	12,293	27,683	24,001	24,040	27,619	3,194	1,813	200,823	147,801
Costa Rica	1,886	798	.....	.....	.....	.....	.....	.....	60	70	120	140	110	159
Guatemala	5,210	3,375	.....	.....	.....	.....	264	343	1,749	2,877	793	184	1,981	1,898
Honduras	1,380	849	42	98	811	674	86	117	1,493	949	.....	.....	178	228
Nicaragua	1,362	791	.....	.....	1,524	1,496	111	103	258	348	.....	.....	1,135	1,846
Panama	482	538	12	61	468	509	393	309	3,620	3,395	2,991	1,346	2,240	1,735
Salvador	1,856	947	.....	.....	.....	.....	.....	.....	2,726	3,409	.....	.....	1,560	1,371
Mexico	95,931	53,400	50	312	1,981	2,230	1,367	1,817	43,970	55,419	4,992	3,707	64,936	12,567
Miquelon, Langley, etc.	.....	.....	.....	.....	82	59	.....	.....	.....	.....	.....	.....	90	78
Newfoundland & Labrador	2,683	1,825	3,156	9,078	20,100	18,824	186	207	789	874	.....	.....	2,449	2,583
Barbados	.....	.....	.....	.....	81	85	14	26	1,284	1,434	.....	.....	95	30
Jamaica	4,041	1,509	.....	.....	528	805	59	76	2,802	3,696	.....	.....	782	411
Trinidad and Tobago	1,792	1,169	.....	.....	1,296	523	1,636	2,132	5,209	5,291	80	243	2,647	1,420
Other Brit. West Indies	726	602	.....	.....	282	268	2	3	3,736	3,400	141	135	689	249
Cuba	72,959	39,596	.....	.....	8,233	4,925	3,486	5,633	139,236	104,443	4,512	2,500	24,558	18,568
Danish West Indies	7	14	.....	.....	.....	.....	10	12	707	1,122	72	26	1,112	639
Dutch West Indies	88	23	.....	.....	.....	.....	122	113	1,803	2,802	.....	.....	73	24
French West Indies	185	278	.....	.....	1	1	2	3	784	422	.....	.....	9	11
Haiti	160	117	.....	.....	.....	.....	10	3	2,070	3,152	808	172	768	699
Dominican Republic	1,738	1,311	.....	.....	.....	.....	45	61	5,636	6,699	1,174	474	422	473
Argentina	929	513	.....	.....	.....	.....	135	337	6,802	8,370	.....	.....	3,828	4,379
Bolivia	75	350	.....	.....	.....	.....	2	23	.....	.....	.....	.....	16	47
Brazil	9,565	5,502	.....	.....	3,474	2,859	973	2,816	31,224	32,419	.....	.....	2,932	5,323
Chile	24,338	18,541	98	553	.....	.....	2,261	2,667	43,635	55,198	5,274	6,182	13,309	9,331
Colombia	4,135	2,865	.....	.....	373	304	.....	.....	5,830	5,428	947	410	1,726	1,537
Ecuador	369	299	.....	.....	.....	.....	49	73	2,388	2,878	.....	.....	141	77
British Guiana	490	539	18	58	3,300	1,361	40	36	800	1,643	.....	.....	1,895	1,244
Dutch Guiana	23	35	.....	.....	.....	.....	249	190	.....	.....	30	86	1,230	935
Peru	7,708	3,591	.....	.....	312	489	305	308	17,524	24,423	.....	.....	3,374	2,694
Uruguay	.....	.....	.....	.....	.....	.....	9	3	.....	.....	.....	.....	1,462	1,207
Venezuela	797	710	.....	.....	.....	.....	358	496	8,868	11,347	25	114	1,056	1,407
China	14,552	9,076	.....	.....	123	106	679	1,286	9,704	11,613	418	831	5,227	6,263
Chosen	390	157	.....	.....	54	62	.....	.....	1,471	1,388	.....	.....	256	230
British India	20,267	6,283	.....	.....	144	221	2,434	1,522	3,466	4,144	662	576	4,094	5,529
Straits Settlements	.....	.....	12	36	256	278	.....	.....	5,704	10,582	.....	.....	2,655	1,742
Other British East Ind.	.....	.....	28	35	.....	.....	.....	.....	976	2,340	.....	.....	500	1,500
Dutch East Indies	2,627	3,521	.....	.....	3	6	474	557	34,919	38,592	1,616	1,158	8,828	11,547
French East Indies	2,458	1,964	.....	.....	.....	.....	.....	.....	.....	.....	22	22	.....	.....
Hongkong	322	69	12	36	65	84	10	28	200	90	.....	.....	104	113
Japan	110,198	46,128	516	450	17,214	16,584	174	386	14,698	16,189	1,250	1,600	6,309	5,781
Russia in Asia	.....	.....	2	19	12	35	.....	.....	6,484	8,806	500	1,439	126	32
Siam	.....	.....	.....	.....	.....	.....	.....	.....	15	12	.....	.....	.....	.....
Turkey in Asia	.....	.....	.....	.....	.....	.....	.....	.....	1,355	1,067	.....	.....	248	139
Australia	10,935	6,547	192	499	5,307	3,988	1,667	1,958	21,130	29,047	.....	.....	3,310	3,425
New Zealand	1,771	828	9	35	.....	.....	.....	.....	39,014	38,835	.....	.....	1,858	2,167
Other British Oceania	.....	.....	.....	.....	.....	.....	2	1	200	240	.....	.....	.....	.....
French Oceania	318	198	.....	.....	.....	.....	13	23	2,946	2,615	312	242	555	557
German Oceania	20	10	.....	.....	.....	.....	.....	.....	1,056	1,552	.....	.....	295	357
Philippine Islands	9,069	6,075	12	49	59,420	46,754	626	999	84,044	123,438	6,617	3,013	15,128	25,125
British West Africa	.....	.....	.....	.....	.....	.....	.....	.....	25	25	.....	.....	.....	.....
British South Africa	271,626	124,652	1,956	8,188	73,193	45,719	1,751	1,956	207,391	266,770	3,359	2,948	30,520	14,913
British East Africa	.....	.....	.....	.....	324	251	.....	.....	.....	.....	.....	.....	.....	.....
French Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,018	879
Portuguese Africa	99,044	22,456	.....	.....	.....	.....	.....	.....	1,120	2,606	.....	.....	.....	.....
Total	833,888	404,223	97,163	402,830	254,427	218,802	49,297	52,492	794,869	930,204	41,371	29,661	577,079	496,782

News from the Rubber Metropolis

Interest in Firestone Victory Intense—Akron Expects Big Export Business—Akron in Need of Workers—Canadian Consolidated Divided Into Seven Separate Companies—War Industries Board Files Will Be Preserved

Akron Notes

(Special Akron Correspondence)

Interest in rubber circles this month is divided between the Firestone victory in the tire machine patent case brought against it by F. A. Seiberling, president of the Goodyear Tire & Rubber Co., and the removal of all restrictions on the amount of rubber which can be used in manufacturing tires and other articles which gave world-wide prominence to this city.

The Firestone victory is the biggest thing of its kind in rubber tire and automobile circles since the Selden case. The court decision will be felt throughout the entire rubber and automobile industries and likewise will affect the automobile owner. By its victory in court, the Firestone has stopped the payment of royalties, estimated at millions, on a basic patent, so claimed, on a tire finishing machine.

The lifting of the ban on the use of crude rubber for manufacturing was forecast some time ago from Washington and companies here had made their plans for the coming year on the basis of an unlimited supply of the raw material.

The messages of presidents of the larger concerns to their stockholders at the recent annual meetings, all spoke of larger opportunities for the coming twelve months. Record sales are expected.

Action on the part of the government in lifting the ban will be a great help to the smaller factories whose output was so limited by the War Board's restrictions that many turned to other lines to tide themselves over the war period.

The scarcity of labor in Akron is still a source of worry to the labor departments of the larger plants. But with the returned soldiers coming back into civilian life at the rate of 30,000 a day, this shortage will soon be overcome, it is believed. Nevertheless the sudden demand for labor places Akron at the top of the list of "peace" cities even though it became extremely important during the war because of its output of balloons, dirigibles, gas masks, raincoats, etc.

Akron Preparing for Big Exports

(Special Akron Correspondence)

Rubber men here are predicting a great future for Akron's products in the markets of Europe and South America.

Practically all the rubber goods in Europe has been exhausted during the past four years of war and it will take several years before all of their needs have been supplied, one of the officials of a large company here pointed out.

That France and England should have used up all the tires, raincoats and other rubber products during the period of the war was well understood, but H. S. Firestone pointed out that fact the need for rubber was even greater in Holland, Sweden, Norway and Denmark than it was in the countries which had been at war.

These countries, he said, had sold all their rubber to Germany and the Central Powers and when the United States had placed an embargo upon the shipment of rubber to the neutral countries these nations found themselves entirely without rubber.

Therefore, even now the European countries which had not been in the war were asking for rubber goods, he said, and the sales organizations of the local companies there were being swamped with orders for immediate delivery.

The report of the great demand for rubber goods in Europe was emphasized by F. A. Seiberling, who added that the greatest handicap toward supplying that market was the lack of men to even supply the market at home, which was beginning to demand tires and all kinds of rubber goods.

Until the demand in this ocuntry is supplied, he said, there could be little thought of supplying the needs of the countries who had sold their goods to Germany when that country was at war with the United States.

Another handicap to the foreign trade in rubber at this time is the fact that ships are lacking both to carry the finished product to Europe and the raw material to America.

The European trade is bound to boom as soon as shipping conditions improve, local manufacturers say.

It has been reported here that The B. F. Goodrich Company plans to enlarge the Paris manufacturing branch of the concern. At the offices of the company it was explained that the plan to enlarge the French factory was merely in conformity with the usual policy of the company and not because it was expected that the Paris branch would be called upon to supply an abnormal demand in the near future.

W. I. B. Files to Be Preserved

Outlining plans of the War Industries Board for the preservation of its records, data and other information gathered by the Board through its relation with the American war programme, Chairman Baruch, of the Board, declared on December 18 that the files probably would be kept intact for at least six months. After that time, he said, the files in all probability would be distributed among the various Government departments desiring the data, after a complete copy has been made for use of business men and others interested in the information.

Notwithstanding the Board passes out of existence on January 1, every section head of the Board has been instructed by the chairman to make a complete report on the activities of the individual sections, embracing how and why such actions were taken with respect to every step taken by the divisions. After these reports have been received by the chairman the reports will be bound, serving as the most complete report of the Board's activities during its existence and also as a history of that branch of the Government during the war period.

In commenting upon reports received by the Board concerning the after-the-war industrial amalgamations, he said, that the various chemical companies are forming export associations similar to that formed by the independent steel manufacturers for the purpose of competing American manufactured chemicals in work markets hitherto dominated by chemicals bearing foreign trade marks.

Canadian Consolidated Changes Organization

Due to the heavy increase in its business, the Canadian Consolidated Rubber Company, Montreal, Canada, has formed seven separate companies throughout the Dominion, one for the Maritime Provinces and one each for six of the other provinces. This step was not taken until the expansion of the company had forced it to establish branches and warehouses in practically every Province in Canada.

The new companies formed are the Dominion Rubber System (Quebec), Ltd., of Montreal, capital $1,500,000; Dominion Rubber System, Ltd., of St. John, capital $500,000 (this is the company established for the maritime district); Dominion Rubber System, Ltd., Toronto, capital $1,000,000; Dominion Rubber System, Ltd., of Winnipeg, $500,000 capital; Dominion Rubber System, Ltd., of Regina, Sask., capital $500,000; Dominion Rubber System, Ltd., of Calgary, capital $500,000; and the Dominion Rubber System, Ltd., of Vancouver, capital $250,000.

According to officials of the company, the separation was caused by an effort to separate the manufacturing end of the business from the sales and distribution end of it. The factories of the system are located in the provinces of Quebec and Ontario. The new companies will be looked after by separate organizations, composed of the old agency staffs, some members of the present executive force of the company, and a few local men from each district. Each of the new companies will take over from the Consolidated Company all leases, property, book debts, fixtures, stock on hand, etc., at the actual valuation, and the Consolidated Rubber Company will receive the greater part of the payment in the form of stock in the new companies.

A statement issued by the company said "The selling agencies have become so big that it was decided best for them to become separate corporations with assets perfectly distinct."

Egyptian Cotton Restrictions Removed

The War Trade Board ruled on Dec. 20 that the regulations affecting importations of Egyptian cotton into the United States, announced on June 20 last, had been revoked. Applications will be considered by the Board for licenses to import beginning Jan. 1, not exceeding 40,000 bales of Egyptian cotton, without limitation as to quality or grade.

Control of distribution in this country for the licensed imports will still be maintained by the War Trade Board through the Textile Alliance.

Trade Publications' Review

Used Machinery—The Terminal Machine Company, 404-408 Broome Street, New York City, is publishing a series of folders illustrating and describing used machines, which will be found useful to parties interested in boring mills, drilling, grinding, milling, screw and shaping machines, lathes, power presses, profilers, and the like. This concern specializes in the purchase and sale of metal working machinery, buying entire plants for cash. Recently it announced that it would pay the freight on all machinery and this feature is prominently brought out in its literature, which is for free distribution and will be mailed to interested parties on request.

American Patents

ISSUED OCTOBER 29, 1918

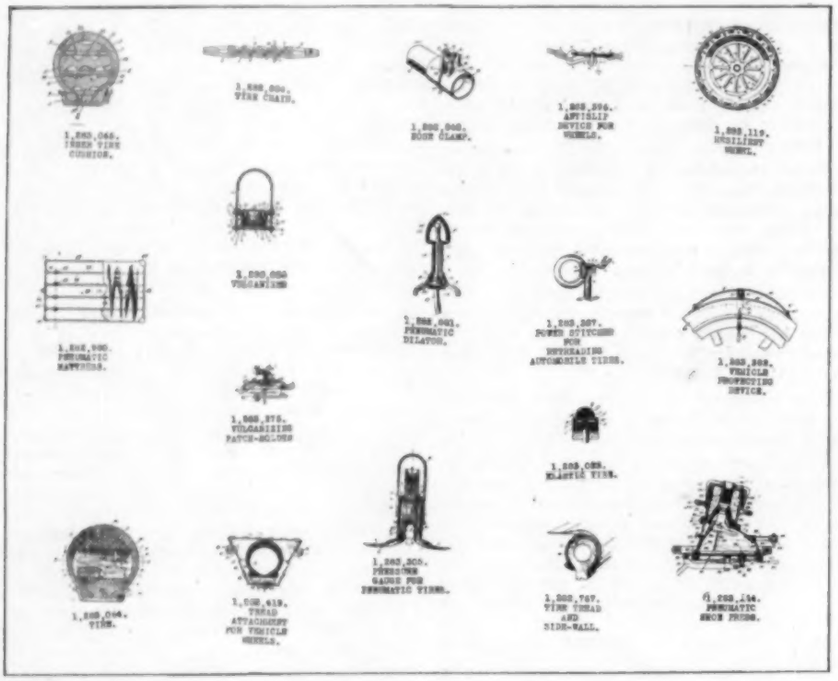
1,282,767—To Burgess Darow, Akron, Ohio, assignor to the Goodyear Tire & Rubber Company, Akron, Ohio. Tire tread and side-wall and method of preparing same.

1,282,804—To Frederic A. Gabring, Minneapolis, Minn. Tire chain.

1,282,848—To George F. Jones, Fairfield, Ill. Hose clamp.

1,282,881—To John T. Landis, Nashville, Tenn. Pneumatic dilator.

1,282,980—To Nicholas M. Takach, Bridgeville, N. Y. Pneumatic mattrass.



1,283,033—To John M. Avery, Dallas, Texas. Elastic tire.

1,283,038—To James E. Bancroft, Toledo, Ohio, assignor to the National Rubber & Specialties Company, Cincinnati, Ohio. Vulcanizer.

1,283,064—To John W. Burgess and George F. Burgess, Kansas City, Mo. Tire.

1,283,065—To John W. Burgess and George F. Burgess, Kansas City, Mo. Inner tire cushion.

1,283,119—To Joseph H. Dwork, Newark, N. J. Resilient wheel.

1,283,144—To John R. Gammeter, Akron, Ohio, assignor to the B. F. Goodrich Company, New York City. Pneumatic shoe press.

1,283,275—To William E. Nye, Highlands, Cal. Vulcanizing patch-holding device.

1,283,305—To George M. Rhonemus, Independence, Mo. Pressure gauge for pneumatic tires.

1,283,337—To Russell H. Sikes, Los Angeles, Cal. Power stitcher for retreading automobile tires.

1,283,382—To Louis Weber, Judson, N. D. Vehicle protecting device.

1,283,396—To Samuel T. Buchanan and Harrison T. Porter, Aberdeen, S. D., assignors to A. K. S. Manufacturing Company, Aberdeen, S. D. Antislip device for wheels.

1,283,419—To Jesse Canby Morgan, Portland, Ore. Tread attachment for vehicle wheels.

Recent Incorporations

Universal Rubber Products Company, New York City; capital, $250,000; to manufacture tires, rubber products, etc. Incorporators: S. B. Howard, etc.

Tidewater Tire & Electric Corporation, Norfolk, Va., capital $25,000; to manufacture and deal in automobiles and tires. Incorporators: Seomes Chapman, etc.

Cincinnati Tire Company, Covington, Ky., capital $5,000; to deal in tires. Incorporators: Fred L. Richards, etc.

United Rubber Company, Chicago, Ill., capital $2,500. Incorporators: John R. Williams, etc.

Circle Three Thousand Tire Company, Indianapolis, Ind., capital $30,000; to buy and sell automobiles and accessories.. Incorporators: Harry T. Wangeline, etc.

Kelly-Springfield Tire Sales Company, Aberdeen, S. D., capital $5,000.

Noble H. Getchell Company, Wilmington, Del.; capital $95,000; to manufacture and sell tires.

Gregg Tire & Rubber Company, Tampa, Fla.; name changed to Miami Auto Supply Company.

Rubber Tire Supply Company, Springfield, Mo.; capitalization increased from $4,000 to $10,000.

The Victory Machine & Rubber Company, Buffalo, N. Y.; capital, $30,000; incorporators: W. L. Loeser, etc.

Chicago Scrap Rubber Base Company, Chicago, Ill.; capital, $5,000; incorporators: Walter A. Roonet, etc.

Record Tire & Manufacturing Company, Sagaponack, Suffolk County; capital, $50,000; incorporators: J. A. Roberts, etc.

Tuscora Rubber Company, Dover, Ohio; capital, $1,250,000; incorporators, E. M. Blatz, etc.

Biltwell Tire Company, Akron, Ohio; capital, $1,500,000; incorporators: L. P. Mauger and O. D. Miller.

M. A. Pearson with Allen Machine

M. A. Pearson, well known in rubber manufacturing circles as an engineer and designer of rubber machinery, is now associated with the Allen Machine Company, Erie, Pa. Mr. Pearson has had twenty years' experience in the construction and installation of rubber machinery. He was fourteen years with the Farrel Foundry & Machine Company, Ansonia, Conn., and for the past six years was with the Turner, Vaughn & Taylor Company, Cuyahoga Falls, Ohio, where he is credited with having designed and introduced a complete line of rubber machinery. Mr. Pearson was recently honored by an election to membership of the American Society of Mechanical Engineers and the host of friends he has in the rubber industry will wish him a full measure of success in his new undertaking.

Crude Rubber Importations

Importations of crude rubber into the United States during November, 1918, are shown by these figures compiled by the Rubber Association of America, Inc., 52 Vanderbilt Avenue, New York City:

(ESTIMATED NET WEIGHTS)

PLANTATIONS		CENTRALS AND GUAYULE	
From	*Tons*		
Port Dickson	15	Central (Mexico and Central America)	7
Port Swettenham	86		
Singapore	1,585		
Colombo	34	Guayule (Mexico, By rail)	155
Batavia	113		
Penang	45		
Japan and others	1,173		162
	3,051	*PARAS	
		Paras	150

GUMS, WASTE RUBBER, ETC., IMPORTED FROM VARIOUS SOURCES

Waste	168
Balata	33
Miscellaneous Gums	50

COMPARISON 1917-1918

	November, 1917	*November, 1918*
Plantations	12,479	3,051
Paras	861	150
African	57	....
Central	3	7
Guayule	211	155
	13,611	3,363

* Only boat to arrive during November from South America was the Schooner Nat L. Gorton. There are two schooners and two steamers in transit from Brazil.

ARRIVALS PLANTATIONS FOR NOVEMBER, 1918, SHOWING PORTS OF ORIGIN AND ARRIVAL

From	*Arrived at*	*Tons*
Singapore	Seattle	958
Singapore	Vancouver	627
Penang	Seattle	45
Batavia	San Francisco	113
Port Dickson	Seattle	15
Port Swettenham	Vancouver	8
Port Swettenham	Seattle	78
Japan and others	Seattle	1,121
Japan and others	Tacoma	40
Japan and others	San Francisco	12
Colombo	New York	34
		3,051

ARRIVALS OF PLANTATIONS BY PORTS

		Tons
Atlantic Ports:		
New York		34
Pacific Ports:		
San Francisco	125	
Seattle	2,217	
Tacoma	40	
Vancouver	635	
		3,017
		3,051

Enter Rubber Machinery Field

The Wellman-Seaver-Morgan Company, Cleveland and Akron, Ohio, announce the formation of a complete rubber department. This well-known engineering and manufacturing concern has large plants in both Cleveland and Akron, and with the combination it offers of extensive modern manufacturing facilities and highly developed engineering organization, it should rapidly become an important factor in the rubber machinery field. The announcement states that inquiries are solicited for rubber calenders, grinding and mixing mills, tubing machines, vulcanizing presses, tire applying presses, molds and cores, iron and steel castings and jobbing work of all kinds.

The Wellman-Seaver-Morgan Company's facilities include iron, steel and brass foundries, pattern shops, forge shops, structural shops, and modern fully equipped machine shops.

Risselt Cameron's Cincinnati Representative

The Cameron Machine Company, Brooklyn, N. Y., manufacturers of score cutters and rewinding machines, have opened a branch in Cincinnati, Ohio, with Frank C. Risselt in charge.

This new branch of the Cameron Company is located at 503 First National Bank Building and is equipped with samples of the complete Cameron line and will be a service station as well as a sales office.

TIRE NEWS

Basic Tire Machine Patents Held Void

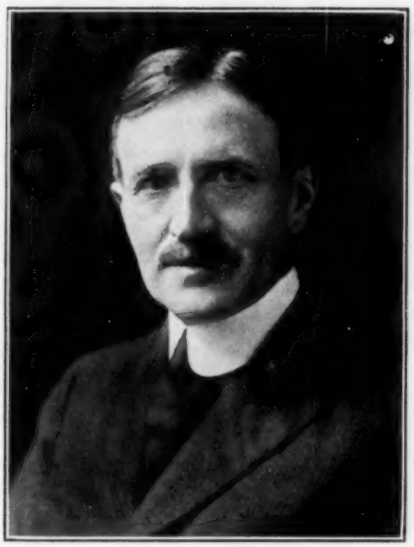
The most momentous decision in the history of the tire industry was handed down by the United States Court of Appeals in Cincinnati, Ohio, on Friday, December 13. This decision marks the end of litigation which started in 1914, when Frank A. Seiberling, president, The Goodyear Tire & Rubber Company, Akron, Ohio, entered suit against The Firestone Tire & Rubber Company, of the same city, for infringement of alleged basic patents owned by him on a machine for manufacturing tires, known as the Goodyear tire-building machine. These patents consisted of a Seiberling and Stevens patent granted in 1904, and a patent to Will C. State, granted in 1909.

Eminent patent counsel from all over the country was employed by both sides. The principal counsel for the Firestone Company were Frederick P. Fish, Boston, Mass., the eminent patent lawyer, and dean of the patent bar of the country, and Edward Rector, the leading patent lawyer of Chicago, Ill. The Goodyear Tire & Rubber Company was represented by numerous well known counsel, headed by Robert Fletcher Roberts, New York.

The trial of the suit was held in the United States District Court at Cleveland, Ohio, Judge John M. Killets presiding, and created a widespread interest in the rubber and automobile industries, because of the huge amount involved, and the importance of the case to both industries. During the trial a Goodyear tire machine and a Firestone tire machine were set up in the court room and were operated for the instruction of the court. The case was prepared with great care and thoroughness by both sides and was closely watched by representatives and attorneys from the leading tire manufacturers of the country.

First Decision

About a year later Judge Killets handed down an opinion in the case, in which he sustained the patents of the Goodyear interests, and gave them a broad and comprehensive scope, which, if sustained by the courts above, would have forced all



HARVEY S. FIRESTONE

American tire manufacturers using machines for building their tires to pay heavy royalties.

A large number of manufacturers were already licensees under the patents when the decision was rendered, and many other companies immediately took out licenses under them. The Firestone Tire & Rubber Company, however, appealed the case and were required to furnish one of the largest bonds ever required of a defendant.

Pending the appeal before the United States Court of Appeals for the Sixth Circuit, at Cincinnati, Ohio, all the exhibits were removed to the Federal Court in that city and the tire machines were set up side by side in the basement of the Post Office Building.

The case was argued during the first part of 1917, and during the argument the full bench of judges adjourned court to the basement, and there observed the building of tire casings as practised in the factories of the parties.

New Evidence Introduced

After the argument of the case, but before the court had rendered their opinion, there was discovered by the defendant new evidence in the form of a Belgian patent granted in 1906 to a Frenchman named Mathern. The utilization of this patent had been made impracticable before this stage of the case because of the European war, and the fact that the Germans had seized the Belgian patent office. The case was reopened to consider the Belgian patent, and its effect upon the state patent in suit.

Much new testimony was introduced, including a replica of the Mathern machine constructed by the Firestone company, using framework and numerous parts obtained from the Hood Rubber Company, Watertown, Mass., which concern had bought the Mathern machine in 1909. This replica was set up in the basement alongside the more modern tire making machines and was operated before the court.

After holding the case under advisement for more than a year, the Court of Appeals has rendered the far-reaching opinion quoted below, which, in brief, holds that the alleged basic patents were invalid for want of invention and for lack of combination. The decision is comprehensive in scope and frees the Firestone Tire & Rubber Company from all charge of infringement. Not only does it do this, but the whole automobile tire industry and, therefore, the entire automobile industry, as user of tires, is freed from the monopoly which would have existed. Had the decision of the court in Cleveland been sustained, the royalties would have amounted to millions of dollars annually, as measured by the established rate of royalty which was collected from licensees under the disputed patents.

Court of Appeals' Decision

The text of the decision follows:

United States Circuit Court of Appeals.
Sixth Circuit.

The Firestone Tire & Rubber Co.
Defendant and Appellant

vs.

Frank A. Seiberling,
Plaintiff and Appelle.

Argued March 14, 1917.
Reargued April 8, 1918.
Decided December 13, 1918.
Before Warrington, Knappen and Denison, Circuit Judges.

Denison, Circuit Judge: Seiberling brought the usual infringement suit against the appellant, based upon two patents, each relating to

the manufacture of casing for automobile tires. The first was issued to Seiberling and Stevens on June 14, 1904, and was No. 762,561; the second was issued to Seiberling on Nov. 30, 1909, No. 941,962, upon an application made by State. The Court below held valid the infringed claims, 1, 2, and 14, of the earlier patents, and sixteen claims of the later patent. The defendant had denied that there was either validity or infringement. After the case had been argued in this Court the defendant discovered a Belgium patent (Mathern of September 20, 1906) said to show anticipation of State as to some features involved; and, upon an application to remand the case for further proofs, a stipulation was finally made and approved by the Court by which this patent and explanatory affidavits were incorporated into the record. The case was then again argued.

The record and proofs are unusually voluminous, but, in view of the conclusions which we reached, a relatively brief statement will be sufficient.

A tire casing of the class now involved is composed of successive layers of fabric, cemented together by a suitable composition and shaped into the form of a tube which is open on one side so that it is horseshoelike in cross section, and the ends of which are joined together to make it circular and endless. The tube opening or slot is along the inside and a solid rubber body is added along the outer circumference or periphery to constitute the tread portion of the finished casing. The general process of manufacture by hand, much order than the Seiberling and Stevens patent, was this: An annular metallic core having spokes and a hub was centrally mounted upon a shaft so that it could revolve the core, thus resembling the rim or tire of a wheel.

This core was approximately circular in cross section and its cross section diameter as well as its entire diameter through the hub from the edge to edge of the rim were proportioned according to the size of the casing to be made. The operator coated this core with an adhesive substance. He then took a strip of rubber-impregnated fabric which would stretch out to be as long as the circumference of the core, and in width somewhat less than the circumference of a cross-section. As he revolved the core on its hub, he stretched and pasted this fabric strip upon the core, pressing and shaping it with his fingers or with hand tools so that it adhered in all places and was without wrinkles. He repeated this operation as many times as there were to be fabric layers in the casing.

The impregnating composition having the character of rubber, would also attach each two layers of the fabric together. The strip of fabric was cut upon the bias, and the warp threads therefore ran from the inner edge of the tube in a diagonal course along, across and around the tube to the other open edge thereof; and the next layer of fabric put on was reversed so that these warp threads crossed those of the first layer at a selected angle. Where the ends of the fabric met each other, they were overlapped enough to make a pasted joint. Each layer of fabric was first pressed down and attached by central portion throughout its length, thus constituting the part of the casing corresponding to the tread. The degree of lateral curvature here is slight, and there would be no difficulty in making a smooth attachment, but as it was continued around the remaining circumference of the cross-section, there would be an obvious tendency to gather and wrinkle.

This wrinkling would be fatal to the strength of the casing and it could be avoided only by careful manipulation and gradual shaping. The ultimately smooth and unwrinkled surface could be had by virtue a quality which all woven materials has had since weaving was known, i. e., that it will contract in one direction as it stretches in another. When a fabric is stretched in one diagonal direction, its square meshes become diamond shaped, with the length of the diamond along the line of stretch and its width at right angles.

This produces a contraction of the fabric in the line of its width. In tire building, it is primarily the central part of the strip which is thus stretched longitudinal as it is attached to the tread of the core, leaving the side portion or wings projecting and free. Upon the same principle, if these side portions are then stretched lateral, they will shrink longitudinally, and, if this stretching is done in progressive measure at the edges approached, the longitudinal shrinking will be greatest at the edge. In this way it results that the fabric may be shaped smoothly and without wrinkles to the entire side core surface.

The Seiberling and Stevens patent seems to disclose a machine for doing this work automatically instead of manually. The machine comprised (so far as now necessary to mention): first, a main power driven shaft which would indirectly engage and drive the core and with such selective connections that the core could be revolved at low speed, or entirely released, as desired; second, a reel carrying the rubber impregnated fabric stripped; third, a tension roller retarding the reel and thus causing the central tread strip of fabric to be given a continuing stretch after the free end is attached to the core; fourth, a pressure roller by cylinder concaved on its exterior to match the shape of the tread portion of the strip was pressed upon and attached to the core as the latter revolved; fifth, an arm carrying at its end a laterally spring-pressed finger—"the jigger finger," and which arm was intended to be reciprocated rapidly, radially of the core, in such a way that the finger traveled in and out radially, pressing against the side of the core as the latter revolved, and which pressure finger therefore traveled a sawtooth course between the edge of the stretched central tread portion of the fabric and its final outer edge, and corresponded in function to the human finger pressing the fabric down against the core and stretching it into shape; sixth, a further arm containing a further pressure wheel to be applied along the edge of the attached fabric after it was attached, to press it into a crease, constituting "stitching."

The described operation is consistent with the idea that the side pressure-attaching finger would follow immediately the tread pressure roller so that with one revolution of the core, the machine would attach the fabric, press down the tread and press in the sides, and so that all of these devices would be an operation at the same time on the same strip. After one complete revolution the core was stopped and the fabric cut away from the reel strip. If the one revolution had not been sufficient, then, after the fabric was cut away and the loose end pasted down, as many more turns could be had as necessary—apparently with all the attaching means at work together—if desired. Based upon the disclosure thus generally described, the Patentees claim:

1. "The combination is a machine in the class specified of a tension device to simultaneously smooth and flatten strips of fabric, a revoluble core to receive said strips from said device, means to form said strips approximately longitudinally about said core and means to regulate the tension on said feeding device."

2. "A machine of the class specified consisting of revoluble means to support the article to be built while in the process of manufacture and means for creating or stitching portions of said article on said revoluble means."

14 (the fourteenth claim does not differ from the second in any respect now material).

The second and fourteenth claims must be held invalid for the same reasons pointed out with regard to Claim 4 of the State patent, later discussed. The creasing rollers are hung on a swinging arm which happens to be attached to the frame of the machine. It might as well be fastened to the ceiling of the room. The pressure applied to the creasing rollers, which forces the fabric into the creases, is the pressure of the operator's hand. They are not at any time or to any extent, operated by the mechanism which operates the other parts of the machine. They are "only used at intervals."

There is no combination between these creasing rollers with their supporting arm and the other parts named in the claim. Their mutual relation is precisely that of the writing lead and the erasing rubber in the rubber-tipped pencil, where the only connecting link is the carrier. It may further be observed that Claim 2 is not limited to a machine handling flat strips of fabric, unless by the phrase "In a machine of the class specified." This phrase, as found in other claims,—*e. g.*, 3—shows no intent to affect such limitations. If the claim covers devices which receive and treat strips of fabric prewoven to form—as it seems to—it is anticipated by Johnston, Jeffrey or Moore.

We do not thus dispose of Claim 1. We are not prepared to say that there is no combination between its elements when they are treated as the specification indicates. The tread-pressure roller automatically effects the revolution of the core. With it, the reel and the tension device may be in simultaneous operation. The side pressure fingers are reciprocated by tripping in a connection with the main driving mechanism, and may be operated simultaneously with the other just named parts—at least, for part of their work.

It is not necessarily fatal to the theory of combination that continuing the work of the pressure fingers may be necessary after the tension device has exhausted its function. Without intending to pass upon all the questions involved, we prefer to assume the validity of this claim and look to see if there is infringement.

The defendant's device is particularly described hereafter. It is enough now to say that it has no tread-forming roller which operates simultaneously with and in advance of the side-forming means, and that it has discarded the jigger finger, operated by the driving power of the machine, and has substituted side-pressing means of different form and operation.

Whether defendant's instrumentalities are equivalent to those of the Seiberling and Stevens patent, under any scope which the state of the art permits to the phrase "means to form said strips longitudinally along said core," is a question which we find unnecessary to decide. Another reason sufficiently requires the conclusion that Claim 1 is not infringed. Out of the four elements named in the claim the first is "a tension device" which feeds fabric strips to the core, and the fourth is "means to regulate the tension of said feeding device."

In a certain sense, every tension device is, in itself, a means for regulating, and it is not impossible that, under some conditions, a tension device by itself might be held sufficiently responsive to the descriptive words of both the first and the fourth elements; but this second claim must be construed to require the independent existence of the fourth element in order to make out infringement. This is the apparent force of the face of the claim. The specification carefully describes regulating means by which the tension resistance can be instantly varied at the pleasure of the operator by turning an adjusting screw.

The present first claim is a substitute for the first three claims as filed. At the time of filing, Claims 1 and 3 contained no reference either to tension device or regulating means, while Claim 2 did not mention a tension device separately from its included "means to adjust the tension on the feeding means." After a rejection, Claim 3 was amended by inserting a reference to the tension device itself.

After a further rejection, the three claims were cancelled and the present one substituted. It was then allowed. The applicant had presented one claim referring independently to the means for adjusting the tension. With this in his mind, he withdrew them and presented and secured a claim calling for each of these elements as separately existing. The intent to regard the ability to modify the tension device as an essential part of the invention which was being patented, could not well be clearer. It seems now to have developed that this adjustability is not very important, in the commercial use of the machine; but these patentees then might well have believed that it was vital to an operative machine.

They had in their minds a friction tension, and they saw that the amount of stretch to be given to the fabric by it would depend upon the length of the fabric strip under stretch, the width of the strip, the strength and other inherent qualities of the fabric, the extent and moisture contents of the rubber impregnation and very likely the temperature and humidity of the air in the factory. All these conditions might change from hour to hour. Hence, the independent and separate call for regulating means can not be considered a mere inadvertence, the limiting effect of which a court would be inclined to escape, if possible. Although it may be voluntary and unnecessary, it must be given effect. McLain v. Ortmayer, 141 U. S. 419,425; Arnold-Creager Co. v. Barkwill Co.—C. C. A. 6—246 Fed. 441,444.)

Defendant uses a different tension device. There is no efficient frictional resistance to the travel of the fabric to the machine, but the resistance is caused by a positive gear connection. The periphery of the fabric feed roller is compelled to travel at a speed proportionate to the peripheral speed of the core, and at a fixed percentage less. This percentage is determined when the machine is built, by providing, for the feed roller and for an intermediate roller peripherally driven by the core, intermeshing gears of the same number of teeth, and by making the feed roller of smaller diameter than the intermediate roller.

After the amount of stretch is thus determined and fixed—at, say, 14 per cent.—it can never be varied—unless by an expedient which plaintiff suggests and upon which theory alone he seems finally to rely to make out infringement of this claim. It is said that, by substituting upon the feed roller another gear with a greater or less number of teeth the speed of the feed roller can be increased or diminished. This is true; and it may well be that if the defendant's machine were built in contemplation of such a change, and if an assortment of gears were provided with it therefore, it should be thought to contain "means to regulate the tension"; but there is nothing to indicate that the machine was built with any such purpose, or that the defendant has any means of thus regulating the tension, or ever has done so or desired to do so.

In this situation it seems an apt suggestion by defendant's counsel that we might as well say an ordinary table contains "means for regulating" its height, because we can take off the legs and put on some longer ones.

The theory that the constant stretch insured by defendant's mechanism constitutes both a tension device and a means for regulating it is urged by plaintiff's counsel, when they say that "to regulate" means "to maintain." To adopt this theory is to say that the phrase "means to regulate, etc.," adds nothing to the claim. We can not conceive any tension device which is not, in itself, "means to maintain" a fixed tension. Further, the theory would be, obviously, untenable, unless the patent were entitled to the most ex-

treme liberality because it produced very great practical commercial results. It can not have such a degree of credit.

If the machine in the patented form had proved successful, and had gone into extensive or even considerable use, it might be regarded in this light, even though it had not been generally accepted until aided by later patented improvements. This did not happen. One machine was built, but there is evidence that no tires were successfully made upon it, and that the jigger fingers would not smooth the sides so as to make first-class tires. Certainly, its attempted use by the Goodyear Company was abandoned, the machine discarded, and no other ever built.

We further find that upon the application for the State patent Mr. Seiberling, familiar with everything which had been done on the Seiberling and Stevens machine, made an affidavit that State's machine "was the first to successfully make such tires on a commercial scale by machinery." This affidavit does not work any estoppel, but there is every reason why we should accept it as true in its necessarily implied reference to the Seiberling and Stevens machine, and decline to give that patent the breadth of construction, beyond its letter, which is appropriate only for a practical success.

Whether defendant employs any tension device "to simultaneously smooth and flatten strips of fabric," interposing, as it does, nothing between the feed roll and the means which throw the fabric out of flat, may be passed without consideration. For the reasons stated it must be held that there is no infringement of Claim 1.

The Seiberling and Stevens patent belong to, or was practically under the control of the Goodyear Company, one of the largest manufacturers of tires, and of which Mr. Seiberling was general manager. State was in the employ of the same company. After about five years State filed his application for the second patent in suit. His machine was developed and his patent application prosecuted under the supervision of Mr. Seiberling. State's machine was of the same general type as Seiberling and Stevens. His most substantial change or improvement was that he discarded the reciprocal in-and-out forming-finger of Seiberling and Stevens and substituted a tool which he rightly calls a spinning-roll.

He provides in the same general way a core and a fabric reel and a retarding device, whereby he gets his strip of fabric attached to the core for the width of the tread tension, leaving the remaining wing portions projecting outwardly. Attached to the base of the frame, which carried the revolving core, was a standard, manually adjustable horizontally to and from the core; that is to say, it travelled in a horizontal track, which track was an integral part of the frame. At the upper end of the standard was a revolving head or table, called, by State, a turret, and so plainly the turret of the common turret lathe that his choice of name was most natural.

Mounted at four equi-distant points, on the edge of the table, are four tools, independent of each other, except for their common base. The first carries the tread roller, the second the spinning rolls, the third the stitching rolls, and the fourth the bead attaching rolls. The turret standard was fixed in the plane of the revolving core, beyond the periphery thereof, and State revolved his turret until the tread roller was in the same plane, with its axis at right angles thereto. He then moved the standard and turret forward so that the tread roller bore against the tread on the core, with such pressure as the operator chose to give it. When the thread was sufficiently smoothed down and attached, he moved the standard back, gave the turret a one-fourth revolution, bringing the spinning roll device to bear and moved that forward in the plane of the core until the operation of spinning down the side was complete.

He then withdrew the standard, gave the turret another one-fourth revolution, and in the same way moved it forward again and used his creasing or stitching roll, if necessary. Then, again, by a similar operation he brought into effect the fourth device on his turret, which was a bead forming or trimming roll, to be used in certain cases only. In each instance the time during which the tool was to be applied (except for certain spring pressure) was regulated by the operator's hand.

In no instance did the machine do anything except to keep the core revolving. The fact that the tools were mounted on a revolving table, which table was mounted on the frame of the machine, can not be important. From the standpoint of an inter-dependent combination the situation is the same as if these four tools had been lying upon a work-bench by the side of the operator and he had successively selected the ones he desired. While this is obvious, it is emphasized by the fact, clearly appearing, that operators using the State machine often discard the spinning tool mounted on the turret, and after the tread is formed spin the sides down by hand.

In the form of spinning tool shown in the patent there are two rolls pressed toward each other by springs and operating upon both sides of the tire at the same time. There is, thus, an automatic feature to the pressure with which the spinning rolls are applied; but this does not show the existence of any combination with the remainder of the machine. A hand tool with two oppositely spring-pressed rolls would work in the same way if it were hung from any support or held only by the workman; and there is no relation of dependency between the automatic action of the springs and the automatic action of the revolving core.

They both effect the material at the same time, and that is the most that can be said. The fabric reel and the tension device have finished their function when the first revolution is completed and when the strip of fabric has passed once around the core and has been cut and the pasted-on joint made. They have no further office in the building of the tire than if they did not exist. The tread forming roller then is brought into play and finishes its function and drops out of action. Then, and only then, the operator brings the spinning roll to bear.

It performs its work precisely as it would if the fabric strip had been stretched and attached wholly by hand; and the sides of the tire, the tread of which has been formed by the aid of a machine may be spun down and attached by hand operation just as they are by State's device. We do not intend to deny that a true combination may sometimes be found where the same underlying mechanism operates all parts of the machine and where different elements separately act in successive steps upon the raw material as it is being transformed into the ultimate product (though the latest decision of the Supreme Court—Grinnell Co. v. Johnson Co., 247 U. S. 426, perhaps tends to the contrary); but the trouble here is more vital. State's spinning tool has no operating connection whatever with the remainder of the mechanism. Each part performs its own work in its own way, and no new result flows from bringing the two into juxtaposition.

We may find further illustration in the familiar turning lathe. If the cutting tool is carried in a holder which automatically travels along the line parallel to the axis to the revolving chucks which hold the material being shaped, we can see the combination between the chucks and the cutting tool; but not so, if the toolholder is moved along its path by the operator's path—even though the path be upon a fixed guide.

In Gas Co. v. United Co., 228 Fed. 684, we considered the distinctions between aggregation and combination. Applying to the present case, the principles there developed and the authorities there cited, we are satisfied that there is no true combination between State's revolving core and his independent spinning tool, or between such core and his independent tread forming roller, or between such roller and such spinning tool. The Grinnell case, *supra*, may involve the difference between the putting of old elements into a coacting relationship which is invention as distinguished from a similar putting together which is merely skill, rather than involves distinction between elements which form a composite as distinguished from an aggregate; but, however, that may be, that decision fortifies the result which we reach here. It is not easy to see any difference in principle between a device which first washes a garment, and then by separate mechanism dries it, and a device which first shapes and attaches the tread of the tire, and then by separate mechanism attaches the sides.

This conclusion invalidates, because of mere aggregation, Claim 4 and all the other claims of the State patent sued upon (except the fifteenth, seventeenth, and perhaps the eleventh). We might safely rest our decision thereon; but plaintiff really presents his case on the theory that State discovered a new method of making tire casings or a new set of functions to be performed by associated mechanism.

Although a mechanical patent may not be granted for a function (Westinghouse v. Boyden Co., 170 U. S. 537), yet it is now settled that a method patent may be granted for an association of successive mechanical steps (Expanded Metal Co. v. Bradford, 214 U. S. 366), and to hold a mechanical patent void for aggregation, when the same monopoly sought by the patent might have been obtained through a method patent, seems somewhat artificial; hence, we prefer to point out also that State had nothing broadly new either in his method or in his selected tools; and that so far as some details may be new, they are not used by defendant.

The art of shaping a flexible sheet of metal down over irregular forms or dies, circular in cross-section, was very old and was known as "spinning." This was done by clamping the metal sheet upon the form, revolving both together rapidly upon the axis of the circular cross-section, and, then with a tool—which might be a narrow or sharp-edged roller or disc held in a yoked handle—pressing the metal down against the form. The spinning disc, being held in a plane substantially tangential to the circumference of the form at the point of contact, would itself be caused to revolve; and if it were slightly inclined inwardly from this tangential plane, it would gradually move down along the side of the form and its path thereon and upon the metal would be helical.

The successive coils of this travel might be so close together that they practically touched each other, and so the whole surface of the sheet and of the form would be covered by this travel and the sheet would be stretched and shaped to the form. If State had been the first to observe that this spinning process could be applied to shape a tire upon the core, the question of whether there was invention in the transfer would have required consideration; but he was not. The evidence that this identical spinning operation was performed upon tire casings by hand tools before State's invention is sufficiently satisfying to meet all the requirements of the situation.

One witness testified that this spinning operation with a hand tool was common practice for smoothing down the sides of tires at a date three years earlier than the building of the first State machine; one told of the same practice in use at Detroit the same year State was constructing at Akron; and one seems to refer to it as a common practice in the Goodyear shop in 1903. Considered critically, all this testimony might not be sufficiently definite and positive to prevail by itself against circumstances tending to throw doubt upon it; but there are no such circumstances.

When defendant's proofs closed, this proposition would ordinarily be taken as fairly established; Messrs. State and Seiberling were called as witnesses on the rebuttal; both were familiar with the history of the art; neither one denied or questioned this proposition; nor did any other witness for plaintiff. More than this, State, in his specification, speaks of this spinning operation as if it were well-known hand practice, and seems to rely upon the advantages of his tool over the existing hand method.

This is not all; the Seiberling and Stevens patent shows what it calls creasing or stitching rollers. Each one is undoubtedly an effective spinning tool and capable of use as such; their edges, as shown, may be sharp enough to cause some danger of cutting the fabric, but the spinning would be done by the side bevels, not by the extreme edge; and plaintiff's theory that defendant's spinning roll is so far the equivalent of the Seiberling and Stevens stitching rolls as to make out infringement of the claim based thereon goes far to persuade that they are, in a broad sense, an anticipation of State's spinning roll. There seems no sufficient reason to doubt that Stevens used them for spinning in 1903 or 1904. The Moore patent shows what is, essentially, a spinning roll for operating against a revolving core in making a tire casing.

It was intended to and did smooth down the Moore tire from the center of the tread only part way, and not much further than may be done by the typical tread forming roll; but the operation is substantially spinning, as far as it goes, and involves, in some degree, the characteristic relocation of the threads of the fabric, even though it may only put them back where they were before the casing was distorted by placing it on the core.

In the Moore patent, the handle of the spinning roll was so attached to its frame that the roller could not effectively travel radially of its core down as far as the bead, but if its attaching staple is made larger, the whole tire can be formed thereby, as demonstrated. Further, there is no reason to doubt that State and Seiberling were familiar with the character of patent protection, and were advised by competent counsel. If they had thought that State was the first to shape the sides of the tire by the spinning operation, it is highly improbable that he would have omitted to apply for a method patent. Still further—it is conceded that the Belgian patent is a complete anticipation of State as to the matter of employing a radially-moving spinning rool in this type of tire-making machine for shaping the side of the tire—unless plaintiff is right in his contention that in the Belgian patent the fabric was first partially attached to the side by a device resembling Seiberling and Stevens' jigger fingers, that this operation left wrinkles and puckers, and that the spinning roll was used only to remove these wrinkles and perfect the attachment. We do not see that this alleged distinction is very important. No matter if the fabric has been already partially attached—as much as is consistent with any reasonable theory of operation—the tool of the Belgian patent is a spinning roll and performs a spinning operation; and, if we are right in what we subsequently say regarding the "centrifugal force" theory, the Belgian tool in its radial progress was bound to stretch and reshape the fabric in substantially the same way that is done by State. Putting all these things together, State can not be considered as the inventor of the method; and hence there is no reason to hesitate at the result reached because of aggregation.

One group of State's claims is distinguished by the call for shifting the revolution of the core from a slow speed while the fabric strip is being put on to a high speed while the spin-

ning is to be done. Seiberling and Stevens did the same thing, so far as concerns any broad idea, and the particular devices by which alone State distinguishes this part of his action from Seiberling and Stevens are not employed by defendant.

Another group of claims is characterized by the requirement that the spinning roller should be set in a plane at "a receding angle" to the plane of the core. It is not clear that this thought imparts any novelty to the claims. The same angle is shown by the Seiberling and Stevens stitching rollers, and it was certainly open to the user of any hand tool to apply it in this specified plane.

However, the defendant does not do this; the claim of infringement in this is based upon a confusion of thought. If we picture the spinning roller as a disc—whereby its plane is more sharply conceived—and if we assume that the core is vertical and its axis horizontal, and that the disc is to be applied to the core midway from top to bottom, we observe that the plane of the core and the vertical plane of the axis are at right-angles to each other, and that the relationship of the plane of the spinning roll to the plane of the core, and its relationship to the plane of the axis, are independent of each other. The plane of the spinning roll may be at right-angles to the plane of the core and at the same time at any selected angle to the plane of the axis.

So far as concerns the first relationship above stated, defendant's spinning roll is normally set with its axis horizontal and parallel with the core plane, and therefore operates in a plane at right angles to the plane of the core; but it is capable of adjustment to, and is intended sometimes to operate in, a plane not at a receding angle to the plane of the core, but at an angle which as compared with that shown by the State, is more than 90 degrees—an advancing angle. In other words, its carrying yoke, normally at a right angle to the core plane, may be swung slightly on its pivot toward the outside of the core. The only purpose and utility indicated by State for his receding angle are that the disc may not become entangled with the out-flying skirts of the fabric, and the angles adopted by defendant, for normal use or for special setting, tend to produce the very result shunned by State.

In the machines used by defendant the spinning roll may be manually placed at the "receding angle," but in operation it will not stay there, but returns at once to the right-angle position. Defendant did at one time make some use of a machine embodying this "receding angle," but it was not practically more than experimental and has been abandoned, and was too negligible to justify any judicial action based thereon. The defendant does set its disc axis (in the form assumed) ceases to be horizontal, being shifted perhaps 10 degrees; but this is a different matter. This setting is for a purpose different and causes a result different from anything found in State. It brings a constant radial slip or wipe of the roller upon the fabric, and directly causes a radical stretch. The claims of this group are not infringed.

If the "forming roll" of Claim 2 is the spinning roll the claim is invalid for aggregation; if tihs "forming roll" is the tread roller, then the claim is anticipated by the Seiberling and Stevens machine.

Claim 15 suggests nothing new over Seiberling and Stevens, excepting a yieldingly mounted take-up roll for receiving a layer of muslin, or thin cloth, which is upon one face of the rubber-impregnated fabric as it is rolled upon the supply reel. Precisely the same take-up roll is shown in older machines for feeding similar rubber impregnated fabric to make rubber belting. It can not be important that the fabric in this case is received by a revolving core, rather than by the receiving mechanism of the old machines. The take-up roll does its old work in its old position and for its old purpose. Its transfer from the old machines to the Seiberling and Stevens discloses no inventive novelty.

Claim 17 also reads upon Seiberling and Stevens, save for the addition of "a stretching roller between the tension device and ring core whereby the longitudinal creases are taken out of the fabric and it is smoothly and evenly supplied to the ring core." This also discloses the adoption of a device in common use for the same purpose in analogous situations; but its declared purpose and effect are to avoid the very operation which defendant employs. This stretching roller is for the purpose of delivering the fabric to and upon the ring core in a smooth and flat state. Defendant interposes a convex shoe which delivers the fabric strip to the core in a curve or U-shape.

The curve shoe or form which gets the latter result could not be considered the equivalent of the flat rollers which get the former without a much greater degree of liberality than is—at the best—permitted by the state of art.

Claim 14 is not sufficiently typical to justify using it as a criterion of infringement, as plaintiff would have us do; but, if it were, it shows still another reason why plaintiff must fail. It calls for a stock roll, a ring core, "a radially and transversely movable support, a tread forming roll and a laterally yielding spinning roll for passing radially over the sides of the tire shoe mounted thereon," etc.

The tire shoe is not mounted on the spinning roll; the clause "for passing —tire shoe" is parenthetically descriptive, and the claim must be considered as specifying a radially and transversely movable support having mounted thereon a tread roll and a spinning roll. Defendant has no one support carrying these two rolls, but has two independent supports. One is movable radially, neither transversely. The claim plainly refers to the revolving turret, when it says "support," and defendant has nothing equivalent.

The argument for plaintiff takes the Seiberling and Stevens invention of 1903 and the State improvements of 1908 and puts them together as constituting one pioneer patent dated in 1903; or, stated in another way, it takes the large public acceptance and use of the state patent and thereby attributes merit to the Seiberling and Stevens patent, overlooking the undoubted fact that the first reasonably successful commercial machine was that the first reasonably successful commercial machine was that of Vincent, who intervened between the two. It goes without saying that the Seiberling and Stevens patent is just as effective in denying to State the position of pioneer as if it had not happened that both have been controlled by the same interests.

We are told that the centrifugal forrests disclosed by State's operation caused the unattached skirts of the fabric to fly out at right angles to the plain of the core, and that the effect of the spinning tool slowly advancing against the skirt was to produce a "hinging and folding action," which was novel and unimportant. We are not impressed by this claim.

These words do not seem very appropriately descriptive, but the action which takes place not only pertains to a method or process rather than to any particular mechanism, but it was more or less inherent in the rapid revolution of the core effected by older means, and in the use of any spinning, stitching or creasing rollers. It is not the "hinging and folding," but the radial stretching, and the resulting circumferential contraction, that bring about the desired smoothness. It is possible, that in State's particular form of device, with his spinning disc, at its "receding angle," and practically tangential to the cohe circumference at the point of contact, there will be enough "hinging and folding" back over his tool to produce a friction which would cause more stretch than could the mere rolling advance of the disc in its helical path; but if there is an appreciable effect of this kind, defendant does not have it.

Defendent gets its stretch from the slip or wipe which is compelled by the fact that the spinning disc can not roll unobstructedly in its own plane—which fact results from its inclination toward the plane of the core axis. This very inclination puts part of the disc out beyond the supposed line of "hinging and folding," and prevents a fold at the point of contact. Centrifugal force is not mentioned in State's specification, save as creating an obstacle to be avoided. Perfectly successful spinning performed in court upon a slowly revolving core demonstrates that the outflying skirts are not essential. To make centrifugal force an effective basis of validity in the State's patent would be to give a monopoly of the spinning process or of rapid core rotation; and each was old.

We are also told—and upon this plaintiff seems to place great reliance—that Seberling, Stevens or State—we are not sure which, but apparently by some kind of joint action—discovered and accomplished for the first time such a distortion of the fabric meshed as gave great strength to the built-up casing. This result plaintiff's counsel demonstrates, "the rearrangement of the reticulations" and "placing the threads in geodetic lines." There was nothing new about this. On the contrary, it had been present in every smooth tire casing that had ever been made by anybody. As we pointed out in the early part of this opinion, it is inherent in shaping a fabric to an irregular surface. It consists in the fact that when the rectangular mesh is expanded on one diagonal axis, it will contract upon the other. Outside of tire casings themselves, a familiar instance is the shaping of canvas to cover the whole of a canoe. Still more familiar is the handkerchief or the collar unevenly ironed. This discovery by the plaintiff or his counsel, was in the realm of nomenclature, not of mechanics.

The decree must be reversed and a record remanded with instructions to dismiss the bill.

News of the Tire Trade

Ajax Rubber Company Announces Plan to Increase Capital—Mason Tire & Rubber Company Makes Diehl Its Vice-President—Combination Rubber Holds Annual Meeting—Goodyearites in Army Want to Return

Ajax to Increase Capital

It is officially announced by the Ajax Rubber Company, Inc., New York City, that stockholders of record on December 27 next will be given the privilege of subscribing to a new issue of 20,000 shares of additional stock on the basis of 10 new shares for each 71 old shares of stock now held at $55 a share. The right to subscribe will expire on January 15. Subscription warrants will be mailed to the stockholders within the next day or so. With the issuance of the new stock the company will have outstanding 152,000 shares, as against 142,000 shares now outstanding, or the increase in stock value will be from $7,100,000 to $8,100,000.

The following is the official statement which is being sent to the stockholders:

"At a meeting of the board of directors of your company held on December 17, 1918, it was duly resolved to issue 20,000 additional shares of the common capital stock of the company of the par value of $50 per share, in order to provide $1,000,000 additional working capital. The entire proposed issue has been underwritten to net the company $1,000,000.

"A list of stockholders will be taken on December 27, 1918, at 3 o'clock p. m. and stockholders of record at that time will be entitled to subscribe for these shares in proportion to their present holdings, *i. e.* 10 new shares for each 71 shares now held by them, at and for the price of $55 per share.

"Warrants representing stockholders' rights will be mailed in due course and the rights conferred must be exercised before the expiration date set forth in such warrants."

Diehl Mason Vice-President

John H. Diehl, for some time past a Director and General Sales Manager of The Mason Tire & Rubber Company, Kent, Ohio, has been elected vice-president of the company, in charge of sales. Mr. Diehl is one of the best known rubber men in the United States, having been formerly connected with the Diamond, Portage, and other rubber companies.

Combination Stockholders Meet

The Combination Rubber Manufacturing Company, Bloomfield, N. Y., manufacturers of tires and mechanical rubber goods, has held its annual meeting of stockholders, and the following officers have been chosen: W. H. Servis, president; H. T. Cook, vice-president; F. L. Conover, treasurer; F. W. Servis, secretary; A. R. Colvin, factory manager and W. A. Robbins, superintendent.

Goodyearites Want to Return

According to the many letters that are being received daily by the Goodyear Tire & Rubber Company, Akron, Ohio, a large percentage of the 6,500 former Goodyearites now in the service wish to resume their connection with their former employers upon their return to civil life. Pleasant working conditions are given as the incentive for returning.

MARKETS

Manufactured Rubber Goods

NEW YORK, December 20, 1918.

That there is a more optimistic group of business men in the world than rubber manufacturers and dealers is doubtful. Any who do not believe a profitable business period about to dawn, have only to spend a few moments among rubber men, all of whom anticipate the biggest business era of history to start in 1919. The War Trade Board has withdrawn its restrictions on crude rubber imports and on the manufacture of rubber products, and this action has given a fresh impetus to the enthusiasm that was referred to in our last report.

The present restricted assortments of rubber articles will soon be much enlarged, due to the freedom the War Trade Board and the War Industries Board have given to manufacturers, but it does not seem likely that for a long time there will be that unnecessary variety of styles and sizes of merchandise that characterized pre-war days. It is probable that, though the War Industries Board will soon come to an end, the beneficial policy of conservation and standardization originated by it will be continued voluntarily by manufacturers.

While, due to the feeling that prices will tend downward, domestic trade may show a tendency to be a hand to mouth proposition for some time, the general feeling is that export fields will more than compensate for this home condition. America will have to finance many of the European countries and this will be a great aid to the selling of American rubber goods in those lands, which today find their stocks of rubber products much depleted, if not totaly wiped out as a result of the war.

In the retail field, the holiday trade has opened up in a very satisfactory manner. Sales are decidedly in excess of those of last year. Retail dealers are buying in good volume for immediate shipment, but future orders are somewhat lighter than usual, and some manufacturers predict that if export business approaches their expectations, many retail dealers, and even jobbers, will be caught next spring without sufficient stocks of seasonable goods to meet the demand when it comes. When it is considered that any declines which may come in labor and in raw materials can hardly go into effect in time to affect the manufacture of goods for spring sale, there is much ground for the assertions expressed by the manufacturers.

Retailers in most lines report a slight betterment in the supply of various rubber products, but there are still many lines in which there are shortages.

Collections are good, and cash sales are reported to be well above normal.

MECHANICALS

Hesitancy in buying is the outstanding feature in today's market for rubber mechanical goods. Buyers have unquestionably made up their minds not to buy for any but immediate needs until there have been more definite developments as to the price situation. However, the relief of the war's ending is apparent. A lessening of the tension under which we have all worked, and a renewed energy for regular tasks seems to have taken place.

Construction work has almost overnight leaped from a non-essential classification to the greatest of all activities and this, of course, means that an increased demand for rubber mechanicals will soon be felt. Manufacturers of these lines of rubber products also expect a big foreign demand for their goods. The reconstruction of the industrial regions of France and Belgium, which have been totally robbed of all their equipment and machinery, will need huge quantities of all kinds of mechanical goods, and the other parts of Europe are equally short of supplies in these lines.

TIRES

The tire trade was always optimistic, but the removal of Government restrictions on tire production and on the manufacture of automobiles and their use has made it still more confident in next year's business. The outlook for spring business is particularly bright. The program of automobile manufacturers, while not unduly aggressive, is nevertheless sanely ambitious, and deliveries of new cars may reasonably be expected in sufficient number to appreciably increase the volume of tire business next season. In the meantime, the winter use of cars is greater than ever before and the volume of tire sales during this usually slack season can be expected to be well above that of previous years. The habit of conservation that has been developed by the war is still strong and no doubt will continue. Therefore, the demand for repair materials, which is the biggest in the history of the industry, can be expected to continue to grow.

The trend of prices is a source of deep concern to many tire dealers, but an analysis of the factors that influence prices will convince even the most timid that there is little or nothing to fear in this direction. Most of the manufacturers have bought their supplies of raw materials at high prices, big demands of raw materials will be made by all branches of industry, and the foreign demand for tires is unusually large and will grow much heavier within the next three months; labor will not decrease in cost. All this will have a tendency to keep prices up for some little time. Therefore, timidity should not cause merchants to allow their stocks to become so unduly depleted as to lose the benefit of next season's business which is sure to be the largest in the history of the trade.

DRUGGISTS' SUNDRIES

The past fortnight has been more or less uneventful in the druggists' sundries trade. The only feature of prominence has been the withdrawal of the Government's restrictions on crude rubber and the manufacture of rubber goods. Buyers say that they are buying little new stock, not because they expect any material decline in values in the near future, but because they desire to have as little stock as possible on hand when inventories are taken as per January 1st, or thereabouts. They also say that the number of manufacturers who now are in a position to make prompt shipments is steadily increasing. Of course, some jobbers are stocking up heavily, feeling with good reason, that it will mean a real money saving to have goods ready for sale when demand becomes urgent. In other words there are jobbers who feel that some time in the near future there will be a scarcity of certain lines of merchandise because the rank and file of buyers are not taking on much, and the manufacturers to date have not been inclined to accumulate stocks of merchandise of any size.

FOOTWEAR

The removal of restrictions on the importation of crude rubber and the manufacture of rubber products will do much to relieve the shortage of rubber footwear, which now prevails. But still greater relief, especially in the case of rubber boots for civilian use, is expected from the action of the Government in asking that all manufacturers of rubber boots and shoes consider the cancellation of present contracts for rubber boots which expire December 31. For many months practically the whole production capacity of American rubber footwear factories has been devoted to the filling of Government contracts.

If the War Department decides to cancel contracts for rubber footwear all this production will be promptly released for civilian purposes. This of course would have a greater effect on heavy articles like arctics, wading boots, and lumbermen's boots, of which the shortage is now very acute.

Cotton, Yarn and Fabrics

NEW YORK, Dec. 20.

A good export demand for raw cotton has sprung up during the past two weeks, and this demand appears to be broadening steadily. The export movement has grown to such a point that more than 120,000 bales were exported in one week. Up till Thursday of last week, the export movement had reached that point, as against only 107,000 bales for the entire week in the same period of last year.

The export demand is coming in from all points, and daily shipments show the expansion. In the opinion of local cotton dealers, the movement has now reached the most important stage of its development, and a good business may be looked for from now on. The greater part of the movement at the present time is for England, but ships are loading at South-

ern ports for ports in Continental Europe. Ordinarily, 120,000 bales per week will fill the English demand for one week, and it is believed that the supply being ordered for England has about reached its limit.

As a result of the heavy European demand, some growers are holding their cotton, and this situation has caused an extremely bullish sentiment on the local exchange. There is, however, also some bearish sentiment existing, the bears basing their expectations of lower prices on conditions in the manufacturing trades. They hold that the demand for cotton goods will be so great that cotton prices will rule at the high levels prevailing during most of the period of the war. Arrangements that have been made to hold the surplus stocks of the Government out of the market for the time being are expected to keep the market in a firm position.

Advices from Southern spot markets indicate a good demand, with the offerings still too few to take care of the demand.

SEA ISLAND COTTON

The movement of the Sea Island crop to the market is progressing slow this season, the growers asking for top prices in most instances, in view of the heavy demand and the short supplies available for meeting this demand. The price asked seems still to hover around 70 cents per pound, according to reports from the South, this price representing first cost interior points. It is reported that much of the held-over cotton from last year's crop has been bought up. The crop is all in now, according to reports, which say that the bulk of it which is moving to market is bringing between 65 and 70 cents per pound.

EGYPTIAN COTTON

The American market for this staple is quiet, and no recent arrivals have been noted at Atlantic ports. There are some supplies available, and dealers are able to offer some Egyptian cotton yarns, but this supply is limited. Imports are expected to increase as soon as more tonnage can be allotted to the trade between this country and Egypt. Reports on the Egyptian crop received from England state that the new crop is very satisfactory, and that is being marketed by the British Government Cotton Control Commission satisfactorily. Supplies of the Egyptian cotton are not large in England at this time.

FABRICS

The market for the general list of fabrics is still in an unsettled condition due to the flow of cancellations resulting from the sudden ending of the war, and the removal of Government restrictions is not expected to improve the demand materially for a few months, at least until the chaotic conditions in the market are remedied. The Government still has huge surplus supplies of fabrics on its hands, some of which will be sold by the Quartermaster Department in Washington. It is not expected that the Government will dump these goods upon the market immediately in view of the conditions already predominating.

TIRE FABRICS

Dealers are now offering fabrics to the general trade, but according to the views expressed by them, there is as yet no demand for the fabrics, the market remaining just as "dead" as when they were unable to get any supplies in quantities sufficient to keep their business running along. Dealers are now quoting on the basis of $1.55 @ $1.60 per square yard for the 17¼ ounce Sea Island combed fabric, $1.25 for the Egyptian combed, $1.35 for the Egyptian carded, $1.00 for the carded peelers, and $1.10 and $1.15 per square yard for the combed peelers.

HOSE AND BELTING FABRICS

Conditions in this market are still somewhat complex. The Government is still taking all of the webbing produced in the country, and there will be none for the regular trade until March 1 at the earliest. The Government need for canvas is also large, but it is believed that some will be available for the regular trade, and that the hose and belting industry may gradually be readjusted to a basis nearer that prevailing before the outbreak of hostilities.

DRILLS, SHEETINGS AND OSNABURGS

At the meeting of the National Council of Cotton Goods Manufacturers held in Washington a short time ago, it was decided, at a conference with the War Industries Board, that maximum prices should be removed on Jan. 1 and that after that prices will be ruled again by the law of supply and demand. As a result of this, some drills and sheetings may be bought now at from 1 to 2 cents under the maximum Government rates. It was decided by the Government that it would be unwise to allocate its surplus holdings of drills and sheetings in view of the condition of the market, and these goods may be disposed of through the Indian Agency of the Government, while some may be sent to Europe. There is but a quiet business in drills, sheetings, and osnaburgs passing now, although the transition toward pre-war standards of trading is becoming increasingly apparent.

BURLAPS

The market is quiet, with supplies pretty well used up. The large accumulation of stocks reported a few weeks ago has been entirely absorbed by the demand, and offerings now are rather limited. Prices asked by holders now are a little less than the official Government prices in view of the fact that the removal of these restrictions is looked for in a short time.

New York Quotations

TIRE FABRICS

17¼-ounce Sea Island, combed,	sq. yd.	1.55@1.60
17¼-ounce Egyptian, combed		1.25@....
17¼-ounce Egyptian, carded		1.35@....
17¼-ounce Peelers, carded		1.00@....
17¼-ounce Peelers, combed		1.10@1.15

DUCKS

*Single Filling (pound basis)	lb.	.78
*Double Filling (pound basis)		.79

DRILLS

37-inch 2.35-yard	yd.	.35
37-inch 2.75-yard		.30
37-inch 3.00-yard		.29
37-inch 3.25-yard		.27
37-inch 3.50-yard		.26
37-inch 3.95-yard		.22½
37-inch 2.00-yard Southern	lb.	.75
38-inch 2.00-yard Northern		—
*40-inch 2.40-yard Southern		60.94
*40-inch 2.40-yard Northern		60.94
*52-inch 1.90-yard Southern		61.79
*52-inch 1.90-yard Northern		61.79

SHEETINGS

40-inch 2.35-yard	yd.	.25
40-inch 2.50-yard		.23¾
40-inch 2.85-yard		.33
40-inch 3.00-yard		.32
*40-inch 3.25-yard		.22¾
*40-inch 3.75-yard		.17⅞
40-inch 3.60-yard		.20
*40-inch 4.25-yard		.15½

BURLAPS

(Spot Carload Lots)

†40-inch 8-ounce West Coast		13.60@——
†40-inch 8-ounce East Coast		14.00@——
40-inch 10-ounce		15.00@15.50
†40-inch 10½-ounce West Coast		16.00@——
†40-inch 10½-ounce East Coast		16.50@——

* Maximum prices as established by the War Industries Board.

† F.o.b. dock.

Chemicals and Compounding Materials

NEW YORK, Dec. 20, 1918.

The market for chemicals shows little change in the character of trading. As far as inquiries are concerned they reveal a better interest by consumers but actual buying is still held off awaiting more settled conditions. There is a general belief that export conditions will soon be adjusted to allow a free movement of goods and this will give dealers a chance to reduce their stocks and strengthen the domestic market. There were only comparatively few strong spots noted and the majority of movements was towards lower levels. Announcement was made by leading producers of lithopone and zinc oxide of a decline in prices amounting to ¼c. per pound on both articles. Further declines were registered in shellac, caustic soda, glycerine, turpentine, rosins, aniline oil and carbolic acid. Caustic soda has settled to a more attractive buying basis under pressure from second hands. Trading throughout the past two weeks has been of a limited nature and the cancellation of contracts has resulted in freer offerings in several lines.

ANILINE OIL

Quantities of fair size are available on the spot in the market for aniline oil, and this is giving the market a rather easy appearance at the present time, with the demand down to small parcels and without substantial effect on the market. Spot lots are named at 27 @ 30c. per pound, according to the quantity and the seller.

BENZOL

Quantity shipments in carloads are held at 22c. per gallon at producers works in tanks, while smaller quantities are quoted up to 27c. per gallon. The market shows little change, there being a fairly steady undertone and routine buying by the usual trade interests. Stocks on hand are large, but consumption continues to be large and the accumulated stock has not reached such proportions as yet as to cause any uneasiness in the market.

BARYTES

The cost of labor has not come down any, and therefore barytes producers are not in a position to cut the price, as labor and transportation are the big cost items in this community. The demand is not active just now, and consumption for the entire year has been hardly more than 50 per cent of normal; production has been curtailed, however, and there has been no accumulation of stocks as a reuslt of the decrease in consumption and the outlook for an improved demand is good. The price remains nominally unchanged at $25 per ton, f.o.b. mill.

ZINC OXIDE

The important event of the zinc oxide market past week was the announcement of new prices by the leading producers. Although the new prices are for the first quarter of the year, they take effect at once.

Prices Current for Chemicals, Fillers, Colors, etc.

Acetone	lb.	*.25½	@	.25¾
Accelerator, in drums	lb.	.85	@	1.00
Acids, Acetic, 56%	lb.	*.15	@	.16
Carbolic, C. P.	lb.	.33	@	.37
Cresylic, 95%	gal.	1.15	@	1.20

Acid, Muriatic, 20 deg.	lb.	.02¼ @	.02½
Muriatic, 22 deg.	lb.	.02¾ @	.03
Nitric, 42 deg.	lb.	.08½ @	.08¾
Nitric, 40 deg.	lb.	.07¾ @	.08¼
Sulphuric, 60 deg.	ton	16.00 @	22.00
Tartaric, crystals	lb.	.81 @	.85
Aluminum Flake	ton	29.00 @	31.00
Aniline oil, bulk basis	lb.	.27 @	.28
Antimony, metal spot	lb.	7.50 @	7.75
Oxide	lb.	15.00 @	16.00
Sulphuret, red	lb.	.25 @	.26
Sulphuret, golden	lb.	.28 @	.30
Sulphuret, crimson	lb.	.45 @	.47
Asbestos	ton	35.00 @	45.00
Asphaltum, Egyptian	lb.	.20 @	.25
Domestic	ton	22.00 @	30.00
Barium sulphate, technical	lb.	.04½ @	.05
Sulphide	lb.	.07¼ @	.07½
Barytes, prime white imported	ton	*40.00 @	45.00
white, domestic,	ton	33.00 @	36.00
off color domestic.	ton	23.00 @	26.00
Benzol, pure, bulk	gal.	.22 @	.27
Beta-naphthol, sublimed	lb.	.75 @	.80
unsublimed	lb.	.60 @	.65
Blacks, Drop	lb.	.05½ @	.15
Ivory	lb.	.16 @	.30
Carbon, gas, cases	lb.	.18 @	.25
Lampblack, R. M	lb.	.15 @	.20
Mineral blacks	ton	35.00 @	45.00
Blues, Prussian	lb.	1.15 @	1.30
Soluble	lb.	1.20 @	1.40
Ultramarine	lb.	.14 @	.30
Browns, Umber, Turkey, burnt, powdered	lb.	.05 @	.07
American, burnt	lb.	.03½ @	.04
Cadmium sulphide, yellow	lb.	2.00 @	2.25
Carbon, bisulphide, bulk	lb.	.08 @	.08½
tetrachloride, drums	lb.	.18 @	.20
Caustic Soda, 76@78%	lb.	3.90 @	4.15
Chalk, precipitated, extra light	lb.	.05¼ @	.05½
light	lb.	.05 @	.05¼
heavy	lb.	.04 @	.04¼
China clay, domestic	ton	15.00 @	22.50
imported	ton	*20.00 @	40.00
Fossil flour	lb.	.03¾ @	.05
Gilsonite	ton	50.00 @	55.00
Glue, extra white	lb	.36 @	.45
medium	lb.	.31 @	.35
low grade		.21 @	.27
Glycerine, C. P. (drums)	lb.	.20 @	.21
Graphite, flake (bbl.)	lb.	.18 @	.20
powdered (bbl.)	lb.	.13 @	.15
Green, chrome, R. M	lb.	.14 @	.20
Ground glass (fine)	lb.	.03½ @	.04
Hexamethylene	lb.	1.05 @	1.10
Infusorial earth, powd'd.	ton	60.00 @	—
bolted	ton	70.00 @	—
Iron oxide, red, reduced grades	lb.	.07 @	.08
red, pure, bright	lb.	.15 @	.20
Lead, red, dry	lb.	.11¼ @	.11½
sublimed	lb.	.09¼ @	.09¾
white, basic carb.	lb.	.10 @	.10½
white, basic sulp.	lb.	.09¼ @	.09¾
Lime flour	lb.	.01¾ @	.02
Litharge	lb.	.10¾ @	.11¼
English	lb.	*.12 @	.13
Lithopone, domestic	lb.	.07¾ @	.08¼
Magnesia, carbonate	lb.	.16 @	.17
calcined, heavy	lb.	.12 @	.14
calcined light	lb.	.70 @	.75
Magnesite, calcined, pwd.	ton	50.00 @	65.00
Mica, powdered	lb.	.04¾ @	.05
Mineral rubber (asphaltum base)	ton	80.00 @	115.00
Naphtha, motor gasoline, (steel bbls.)	gal.	.24½ @	—
68 @ 70 degrees (steel bbls.)	gal.	.30½ @	—
70 @ 72 degrees (steel bbls.)	gal.	.31½ @	—
73 @ 76 degrees (steel bbls.)	gal.	.33½ @	—
machine (wood bbls.)	gal.	.41½ @	—
Oil corn, crude	cwt.	17.75 @	18.00
corn, refined	cwt.	21.47 @	21.67
linseed (bbls.)	gal.	1.55 @	1.56
palm, Lagos	lb.	*.50 @	.52
pine, yellow	gal.	.57 @	.59
rapeseed, refined	gal.	1.75 @	1.80
Oil, rapeseed, blown	gal.	1.80 @	1.85
rosin, first rectified.	gal.	.80 @	.82
tar (commercial)	gal.	.35 @	.36
Orange mineral, American.	lb.	.14¼ @	.15¼
imported	lb.	*.15 @	.20
Paraphenylenediamine	lb.	3.50 @	4.00
Petrolatum, bbls., amber.	lb.	.06 @	.07
pale yellow	lb.	.06½ @	.07½
Pine tar kiln	bbl.	13.00 @	
Pitch	bbl.	8.00 @	8.25
Plaster of paris	bbl.	2.00 @	3.00
Red, Tuscan	lb.	.25 @	.30
Indian (reduced)	lb.	.08 @	.10
Standard	lb.	.12 @	.16
Rosin (common to good)	@ 280 lbs. bbl.	14.85 @	..
Rotten stone, powdered	lb.	.02½ @	.04½
Rubber, substitute, black	lb.	.13 @	.17
white	lb.	.15 @	.24
brown	lb.	.20 @	.25
Shellac, fine orange	lb.	.68 @	.70
T. N.	lb.	.60 @	.61
Bleached ordinary	lb.	.59 @	.60
Bleached bonedry	lb.	.70 @	.71
Silex (silica)	ton	22.00 @	40.00
Soapstone, powdered	ton	15.00 @	25.00
Starch, corn, powdered	lb.	3.87 @	4.09
Sulphur, crude	ton	*50.00 @	.
refined, flour, per 100-pounds	in bbls.	3.35 @	3.90
roll		3.20 @	3.65
commercial superfine		2.50 @	3.00
Talc, American	ton	20.00 @	40.00
French	ton	*30.00 @	35.00
Toluol, pure, in drums	gal.	.23 @	.25
Tripolite earth	ton	60.00 @	70.00
Turpentine, pure gum—spirits	gal.	.69 @	.70
Turpentine, wood	gal.	.58 @	.59
Venice, artificial.	gal.	.13 @	.14
Vermilion, English	lb.	2.00 @	2.10
Wax, beeswax, crude yel.	lb.	.43 @	.44
ceresin, white	lb.	.19 @	.20
carnauba, No. 3	lb.	.64 @	.66
Montan	lb.	*.35 @	.40
ozokerite, black	lb.	*.65 @	.70
ozokerite, green	lb.	*.80 @	.90
Wax, Paraffin, refined, 118/120 M. P. (bbls.)	lb.	.12¾ @	.13
Paraffin, 123/125 M. P.	lb.	.13 @	.13¼
128/130 M.P.	lb.	.13¼ @	.13½
133/136 M.P.	lb.	.15¼ @	.15½
Crude, 120/122 M.P.	lb.	.10 @	.10¼
124/126 M.P.	lb.	.10¼ @	.10½
Whiting, commercial	cft.	1.25 @	—
Alba	cwt.	1.25 @	—
Whiting, Paris, white, American	cwt.	1.50 @	1.75
English cliffstone	cwt.	1.75 @	2.75
Yellow chrome	lb.	.30 @	.35
Zinc oxide, States Brand	lb.	.10 @	—
horsehead brand	lb.	†.10 @	.10¼
selected	lb.	†.10½ @	.10¾
"XX red"	lb.	†.10 @	.10¼
Zinc, French process, green seal	lb.	†.12½ @	.13¼
red seal	lb.	†.12 @	.12½
white seal	lb.	†.13 @	.13½
Zinc substitutes	ton	35.00 @	40.00
Zinc, sulphide, pure	lb.	*.06 @	.07

* Nominal. † Contract prices.

Crude Rubber

NEW YORK, Dec. 20, 1918.

The feature in the market for crude rubber during the past two weeks has been the removal of the restrictions upon the importation of crude rubber, and the withdrawal of the government maximum prices, leaving the market open to a free trading basis. It was still deemed necessary by the War Trade Board to maintain requirements of guarantees until some future time. Application for licenses to import rubber will now be considered without regard as to quantity. This relaxation however affects only the imports of rubber from primary centers, application of licenses to import rubber from points other than points of origin will not be considered until after Feb. 13, 1919.

While the market is not yet displaying any great activity, all the importers and manufacturers are of the opinion that as soon as the transitorial period from a war to a peace basis will have been passed, the rubber market will enter a long period of prosperity. A considerable expansion in the industry is looked for and especially in the manufacture of solid tires for trucks or heavy increase in demand is anticipated. Many of the larger consumers are adequately equipped with raw material to cover current production and are not buying at present, waiting to see the effects of a free market on crude rubber. In regard to spot deliveries prices have firmed up since our last writing on the average 2c. a pound, the same advance being quoted also for shipments. Cables from Singapore are coming in very irregular and the position of the foreign market is under missing advices, of an uncertain nature. But although accumulation has been going on at primary centers for over half a year, it is expected that foreign sellers will make a combined front to meet the foreign buying and that prices will be kept firm at the present level. In the Plantation grades smoked sheets ribbed on the spot have advanced to 59c., while first latex crepe is held at 60c., for January-March delivery those grades are quoted at 51½c. and 53c. respectively. In the Brazilian grades the fine up-river on the spot is firmly held at 64c., with January-March delivery quoted at 62c. Cancho ball for spot shipment is held at 38c. and Cameta for same delivery commands 28c. Central descriptions are quoted for Corinto and Esmeralda at 37c. and Guayule is held at 35c.

	Spot	January-March	April-July
Para—Up-river fine	64	62	..
Up-river medium	59	56	..
Up-river coarse	39	36	..
Caucho ball	38	35	..
Islands fine	59	53	..
Islands coarse	27	23	..
Cameta	28	24	..
Madeira fine	67	64	..
Ceylona — Smoked sheets ribbed	59	51½	51½
Smoked sheets, plain	57	50½	50
First latex pale crepe	60	53	53½
Amber crepe	51	47½	47
Clean brown crepe	48	42½	42
Centrals—Corinto, prime	37	37	..
Esmeralda, prime	37	37	..
Mexican scrap	36	36	..
Balata sheets	90	..	..
Balata, block Panama	57	..	..
Guayule	35	..	..
Africans—Rio Nunez string	55	..	..
Massai, red	55	..	..
East Indian Pontianak	14	..	..
Palembang	15	..	..

Scrap Rubber

NEW YORK, December 20, 1918.

There has been a further increase of the quietness of the scrap rubber trade; still prices hold firm. The demand for boots and shoes have further fallen off and tires are again practically stagnant. Reclaimers continue buying for immediate and near requirements and this attitude has much to do with the exceptionaly quiet state of the market.

Inner tubes are holding firm in tone, although they are not moving at as brisk a rate as at the time of our last report. Mechanicals continue very quiet.

The following prices have been quoted for scrap f. o. b. the reclaiming mill:

Boots and Shoes	7.75@ 7.85
Arctics, trimmed	6.25@ 6.50
Arctics, untrimmed	5.00@ 5.50
Tires—Automobile	4.00@ 4.25
Bicycles, pneumatic	4.00@ 4.25
Mixed hose	1.25@ 1.50
Air brake	4.25@ 4.50
Inner tubes, No. 1	20.00@21.00
Inner tubes, No. 2	20.00@21.00

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